AMERICAN

Cinematographer

25c

$3.00 YEARLY IN U. S.

Announcing--

THE AMERICAN CINEMATOGRAPHER AWARD

For Amateur Motion Pictures

SEPTEMBER 1949

IDEAL for high or low key lighting, even under adverse lighting conditions, Du Pont "Superior" 2 Motion Picture Film combines ample speed with extremely wide latitude. This popular, all-purpose negative stock wins the approval of leading cinematographers in the best-known studios. E. I. du Pont de Nemours & Co. (Inc.), Photo Products Department, Wilmington 98, Delaware. New York—Los Angeles—Chicago.

DU PONT MOTION PICTURE FILM

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH* CHEMISTRY

Tune in Du Pont "CAVALCADE OF AMERICA"
Tuesday nights—NBC Coast to Coast

NOW! The Widely-Preferred

COOKE SPEED PANCHRO LENSES

Calibrated in T STOPS

Matched for Perfection

Think what this means! Lenses *accurately* calibrated by scientific measurement of light *actually transmitted!* Consistent negative densities regardless of which lens is used! All that, *plus* these great previous advantages of Cooke Speed Panchro Lenses:

1. The greatest aperture in a complete series of matched lenses.
2. Chromatically corrected specifically for today's emulsions, color and monochrome.
3. Needle-sharp definition.
4. Superior contrast.
5. Elimination of distortion.
6. Cleanable hard coating on all lens surfaces.

Cooke Speed Panchro Lenses now in use can be re-calibrated in T Stops at the B&H factory. Write for details.

A Complete Series of Matched Lenses

25mm T2.3 (F2)
28mm T2.3 (F2)
32mm T2.3 (F2)
35mm T2.3 (F2)
40mm T2.3 (F2)
50mm T2.3 (F2)
75mm T2.3 (F2)
100mm T3.0 (F2.5)

Also 8½", 12½", and 20" Cooke Telekinics

A Matched Set of T Stop Lenses for 16mm Cameras, Too

Carrying forward its program of pioneering the T Stop system, Bell & Howell now offers a group of popular 16mm camera lenses scientifically calibrated in T Stops. They are: 0.7" T2.7 (F2.5) B&H Super Comat, 1" T2.1 (F1.9) B&H Lumax, 2" T1.6 (F1.4) TH Ivotal, 3" T4.6 (F4) TH Telekinic, and 4" T5.1 (F4.5) TH Telekinic. In better photo shops now, or write for details.

Bell & Howell Company, 7148 McCormick Road, Chicago 45. Branches in New York, Hollywood, and Washington, D. C.

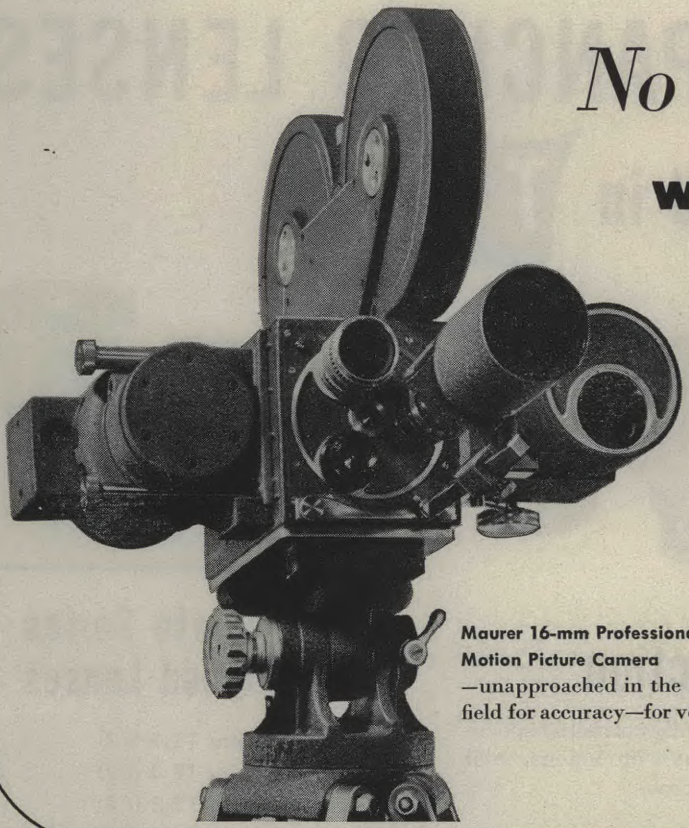
Precision-Made by

Bell & Howell

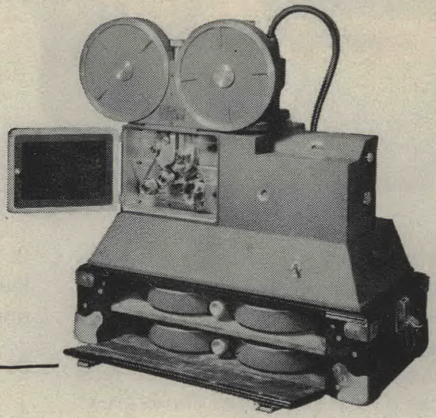
Since 1907 the Largest Manufacturer of Professional Motion Picture Equipment for Hollywood and the World

No Compromise

WITH STANDARDS OF QUALITY



Maurer 16-mm Professional Motion Picture Camera —unapproached in the 16-mm field for accuracy—for versatility.



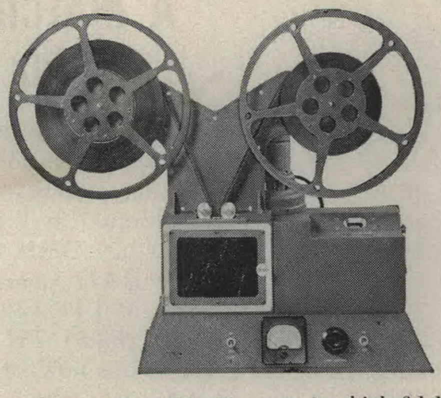
Maurer 16-mm Recorder produces sound tracks of the highest quality and fidelity. Standard amplifier equipment provides the full frequency range that standard projectors and television receivers are equipped to reproduce. A flat frequency range of 30 to 10,000 cycles is available.

Although it is still difficult to forecast the extent of their ultimate use in television, *filmed presentations*—because of their recognized advantages—are destined for a very important role in the TV field.

And as 16-mm film has been adopted by all of the television networks for their kinescope recordings, it is hard to justify the greater expense involved in original production in any other film media.

This is particularly true since equipment is now available to produce 16-mm originals that meet the highest motion picture standards.

New Catalogue mailed on request.



Maurer 16-mm Film Phonograph— high-fidelity reproducer for re-recording that provides a flat characteristic ± 1 db to 10,000 cps.

J. A. MAURER, INC.
37-07 31st Street, Long Island City 1, N.Y.

16mm maurer

16-mm Professional Production Equipment

★

AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

The Society meets regularly once a month at its clubhouse at 1782 North Orange Drive, in the heart of Hollywood. On November 1, 1920, the Society established its monthly publication "American Cinematographer" which it continues to sponsor and which is now circulated in 61 countries throughout the world.

Dominant aims of the Society are to bring into close confederation and cooperation all leaders in the cinematographic art and science and to strive for pre-eminence in artistic perfection and scientific knowledge of the art.

OFFICERS AND BOARD OF GOVERNORS

Charles G. Clarke, President
Fred W. Jackman, Exec. V-Pres. and Treas.
Arthur Edeson, First Vice-President
George J. Folsey, Jr., Second Vice-Pres.
William V. Skall, Third Vice-President
Ray Rennahan, Secretary
John W. Boyle, Sergeant-at-Arms
Victor Milner
Sol Polito
Alfred Gilks
Charles Rosher
Lee Garmes
John Seitz
Leon Shamroy
Joseph Walker

ALTERNATE BOARD MEMBERS

John Arnold
Sol Halprin
Arthur Miller
Hal Mohr
Joseph Ruttenberg

★

AMERICAN
Cinematographer
THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

Arthur E. Gavin, *Editor*
Technical Editor, Emery Huse — Glenn R. Kershner, *Art Editor*
Circulation, Marguerite Duerr

Editorial Advisory Board: Fred W. Jackman, A.S.C., John Arnold, A.S.C. Arthur Edeson, A.S.C., Lee Garmes, A.S.C., Charles Rosher, A.S.C., Leon Shamroy, A.S.C., Fred Gage, A.S.C., Dr. J. S. Watson, A.S.C., Dr. L. A. Jones, A.S.C., Dr. C. E. K. Mees, A.S.C., Dr. V. B. Sease, A.S.C., Col. Nathan Levinson.

Editorial and Business Office: 1782 N. Orange Dr., Hollywood 28, Calif.
Telephone: GRanite 2135

VOL. 30 — SEPTEMBER • 1949 — NO. 9

CONTENTS

ARTICLES

The Dancing Shoes 318
The Garutzo Lens In Motion Picture Photography—*By R. M. Newbold* 320
Eclair Camerette Makes U. S. Debut—*By Benjamin Berg* . 321
Tyro In Technicolor—*By Ralph Lawton* 322
Source Lighting—*By Charles Loring* 324

16MM. AND 8MM. CINEMATOGRAPHY

The American Cinematographer Award—*By Arthur E. Gavin* 326
Light On The Subject—Outdoors—*By Canfield Cook* . 328
Teaching Speech With 16mm. Movies—*By R. William Stanmyre* 330

FEATURES

Current Assignments of A.S.C. Members 314
Hollywood Bulletin Board 316

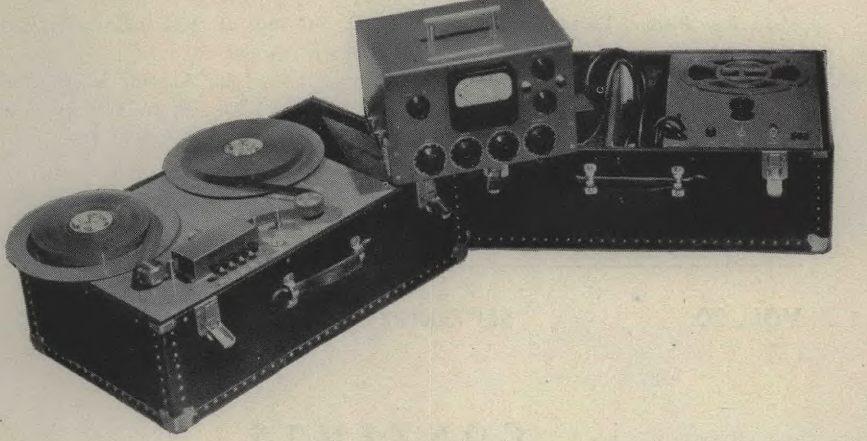
ON THE COVER

JOSEPH RUTTENBERG, A.S.C., explains to Greer Garson the intricacies of the huge Technicolor camera, before which Miss Garson appeared for the first time in M-G-M's "Forsyte Woman," which Ruttenberg photographed. Interested onlookers are Janet Leigh, who's also in the "Forsyte" opus, and white-visored Henry Imus, Technicolor technician.

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1949 by A. S. C. Agency, Inc. AUSTRALIAN REPRESENTATIVE: McGill's, 179 Elizabeth St., Melbourne.

Announcing

hallen's B-22



Portable **SYNCHRONOUS MAGNETIC RECORDER**

- **Sprocket drive gives absolute synchronism with any 16mm or 35 mm camera.**
- **Low flutter content.**
- **Two channel mixer and dialogue equalizer.**
- **Shock mounted miniature tubes.**
- **Frequency response, 30 to 10,000 cycles, signal to noise ratio minus 55 db.**
- ***Suitcase size—can be transported in two units.**
- **Simultaneous playback permitting monitoring 1/12 of a second from the recorded track.**
- **Licensed by Western Electric.**

*Amplifier is contained in a removable unit, permitting space between the amplifiers and the power supply with monitor speaker. This eliminates microphonic feedbacks usually present when a loud speaker and high gain stages are placed in close proximity.

hallen
CORPORATION

PLEASE SEND
FOR OUR
BROCHURE

3503 WEST OLIVE AVENUE
BURBANK • CALIFORNIA

CURRENT ASSIGNMENTS OF A.S.C. MEMBERS

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

★★★★★★★★★★★★★★★★★★★

Allied Artists

• Phillip Tannura, "There's A Girl In My Heart," with Gloria Jean, Peggy Ryan, Ray McDonald, and Joel Marston. Arthur Dreifuss, director.

Columbia

• Charles Lawton, "Cargo To Capetown," with Broderick Crawford, John Ireland and Ellen Drew. Earl McEvoy, director.

• Joseph Walker, "Woman Of Distinction," with Ray Milland, Rosalind Russell, Janis Carter and Edumund Gwenn. Eddie Buzzell, director.

• Henry Freulich, "Stranglehold," with Willard Parker, Lola Albright, Ray Roberts and Hillary Brooke. Seymour Friedman, director.

• Henry Freulich, "Beware Of Blondie," with Penny Singleton, Arthur Lake, Larry Simms. Edward Bernds, director.

• Charles Lawton, "Rogues Of Sherwood Forest," (In Technicolor) with John Derrick, Diana Lynn, George MacReady, Gig Young. Gordon Douglas, director.

• Burnett Guffey, "A Mother For May," with William Holden, Gale Russell and Charles Winninger. Norman Foster, director.

• Ira Morgan, "Tyrant Of The Sea," (Kay Prodn.) with Rhys Williams, Ron Randell, Val Perkins and Doris Lloyd. Lew Landers, director.

Eagle-Lion

• Gilbert Warrenton, "The Prizefighter And The Cowboy," (Equity) (In Color) with Jim Bannon, Emmett Lynn, Marin Sais. Lewis D. Collins, director.

Independent

• Benjamin Kline, "Apache Chief," (Lippert Prodn.) with Alan Curtis, Tom Neal and Carol Thurston. Frank McDonald, director.

M.G.M.

• Harold Lipstein, "Ambush," with Robert Taylor, John Hodiak, and Don Taylor. Sam Wood, director.

• Ray June, "Nancy Goes To Rio," (Technicolor) with Ann Sothern, Jane Powell, Louis Calhern and Barry Sullivan. Robert Z. Leonard, director.

• Hal Rosson, "Key To The City," with Clark Gable, Loretta Young, Marilyn Maxwell and Frank Morgan. George Sidney, director.

• Charles Rosher, "East Side, West Side," with Barbara Stanwyck, James Mason, Van Heflin and Reginald Gardiner. Mervyn LeRoy, director.

• Robert Planck, "Please Believe Me," with Deborah Kerr, Van Johnson, Robert Walker and Peter Lawford. Norman Taurog, director.

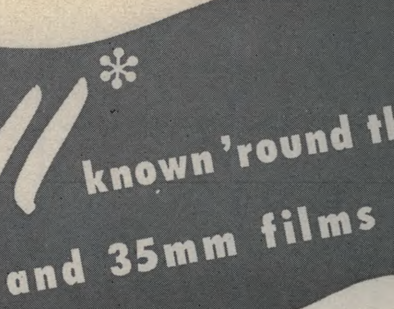
• Paul Vogel, "The Knife," with Gene Kelly, Teresa Celli and J. Carroll Naish. Richard Thorpe, director.

• John Alton, "Devil's Doorway," with Robert Taylor, Marshall Thompson, Louis Calhern. Anthony Mann, director.

• Harry Stradling, "The Yellow Cab Man,"

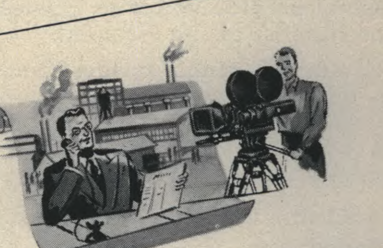
(Continued on Page 344)

Mitchell* known 'round the world... wherever great 16mm and 35mm films are made



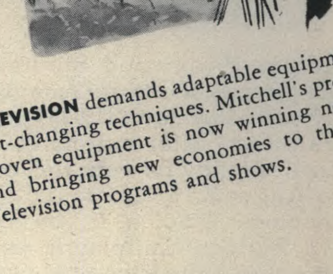
THE MOTION PICTURE INDUSTRY insists upon professional perfection . . . uses only the finest equipment. Mitchell has become the standard equipment of the world's leading studios . . . films 85% of the motion pictures shown in theatres throughout the world!

GOVERNMENT SERVICES set high specifications for photographic equipment. Time after time, precision perfect Mitchell 16mm and 35mm products have been selected for purchase by United States and Foreign Governments.



AMERICAN BUSINESS needs top quality films to promote sales, educate employees, create good will and inspire a better way of American Life. Today, more and more of the nation's business leaders specify modern, sure Mitchell equipment.

NEWS SERVICES require fast, versatile photographic equipment for "on the spot" coverage. Working under pressure, in a field where retakes are unknown, Mitchell has lived up to its reputation for dependability and accuracy.



TELEVISION demands adaptable equipment to meet fast-changing techniques. Mitchell's professionally-proven equipment is now winning new successes and bringing new economies to the filming of Television programs and shows.

. . . AND FROM MITCHELL'S ENGINEERING LABORATORIES

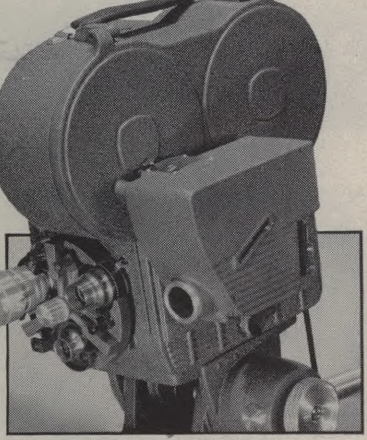
newly developed, pace-setting photographic equipment will soon emerge. Look to Mitchell for the Year's most important contributions to 16mm and 35mm photographic perfection!

Mitchell Camera CORPORATION

666 WEST HARVARD STREET • DEPT. FW-8 • GLENDALE 4, CALIFORNIA • CABLE ADDRESS: "MITCAMCO"
EASTERN REPRESENTATIVE: THEODORE ALTMAN • 521 FIFTH AVENUE • NEW YORK CITY 17 • MURRAY HILL 2-7038

* 85% of the motion pictures shown in theatres throughout the world are filmed with a Mitchell

Announcing!



. . . the amazing 1950 Model Auricon 16 mm sound-on-film Recording Equipment. Your money back if it does not provide you with crystal-clear 16 mm Talking-Pictures!

All Auricon "single-system" Cameras and "double-system" Recorders are now being delivered with the newly developed Model "NR-24" Amplifier, featuring . . .

★ *Automatic sibilance suppressor.*
★ *Professional "Speech-Music" control.*
★ *Four triode-connected 1U5 input tubes for lowest distortion with "high fidelity" recording. No tube noise or hiss.*
★ *Automatic background-noise reduction.*
★ *Model E-6 Microphone.*
★ *RCA Licensed.*
★ *30 day trial, money back guarantee.*
★ *No increase in price; still $1,191.00 for Auricon single-system Camera with NR Amplifier.*

Major Hollywood Studios and Television Stations are enthusiastically using this new "NR-24" Auricon Equipment after extensive tests! Write us today for your free copy of the Auricon 16 mm sound-on-film Equipment Catalog. If you already own Auricon Equipment, write us regarding conversion of your equipment to the new "NR-24" Amplifier circuit for improved results.

Auricon Hollywood

BERNDT-BACH, Inc.
7381 Beverly Blvd., Los Angeles 36, Calif.
MANUFACTURERS OF SOUND-ON-FILM RECORDING EQUIPMENT SINCE 1931

Hollywood
Bulletin Board

SEPTEMBER 17th's the date for the A.S.C.'s annual Ladies' Night Dinner and Dance to be held at the Society's clubhouse, Franklin Avenue and Orange Drive in Hollywood. The weatherman promised mild, Indian Summer weather for that evening which is compatible with A.S.C.'s plans for dining out-of-doors on the clubhouse lawn. Chito Montoya and his Spanish musicians, who furnished music for the Society's big affair two years ago, will again entertain members and their wives during dinner, then furnish rhumbas and tangos afterward for dancing in the clubhouse.

●

CHARLES CLARKE, A.S.C., photographing "Two Corridors East" in Berlin, Germany, for Fox, now makes his reports on daily production to the Twentieth Century-Fox lot in Westwood via trans-Atlantic telephone. There Sol Halprin, A.S.C., studio's camera department head, records the two-way conversation on tape for playback to studio's production heads.

●

PICTORIAL LAYOUT of Academy Award Winners of past twenty years appears in the September issue of Coronet magazine. Signed comments by honored stars and directors accompany each photograph selected from a key scene that recalls the "Oscar" honored film in this layout.

●

ROBERT SURTEES' camera crew, while on location in Africa for M-G-M's "King Solomon's Mines," will have all the advantages of the home-lot camera department and lab in the special mobile camera room which that studio had Chrysler Motors build especially for this location project. The mobile unit, a special 4-wheel-drive Chrysler truck, comprises an 8 by 5 by 10 foot refrigerator room for film storage. Here exposed and unexposed film will be kept at an even temperature of 40 degrees. The other section of the truck, 8 by 10 by 15 feet in extent, provides loading, storage and repairing facilities for camera equipment. "King Solomon's Mines" will be photographed by Surtees in Monopack.

●

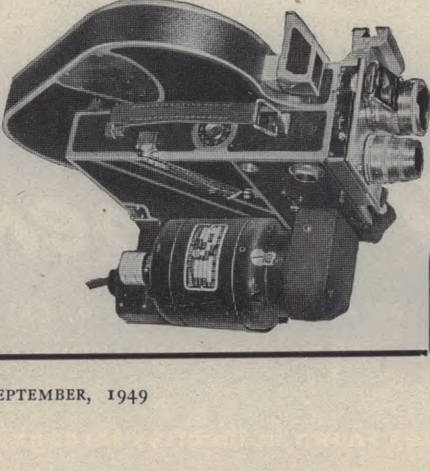
KARL STRUSS, A.S.C., donned grease paint recently to play the lead—that of a director of photography—at Paramount Studios in the industry short subject produced by the Academy, which will tell the public the story of the director of photography's part in production of a motion picture.

●

A.S.C. MEMBERS Paul Eagler and Bob Hansard have merged talents and equipment and now offer the independent producer the finest facilities for background projection and special effects. Recently they have serviced such studios as Motion Picture Center, Nassour and Hal Roach. They are equipped to work in both color and black and white photography, using Mitchell and Hansard Special projectors and screens up to 24 feet in width. Both men are credited with the fine background projections in "Joan of Arc," photographed in Technicolor and

(Continued on Page 344)

SYNCHRONOUS MOTOR DRIVE
for the
E. K. Cine Special



110 Volt A. C., Single Phase, 60 Cycle

This motor will run in synchronization with either 16mm. or 35mm. sound recorders. It is provided with mounting platform which permits removal of magazine while camera remains mounted on motor.

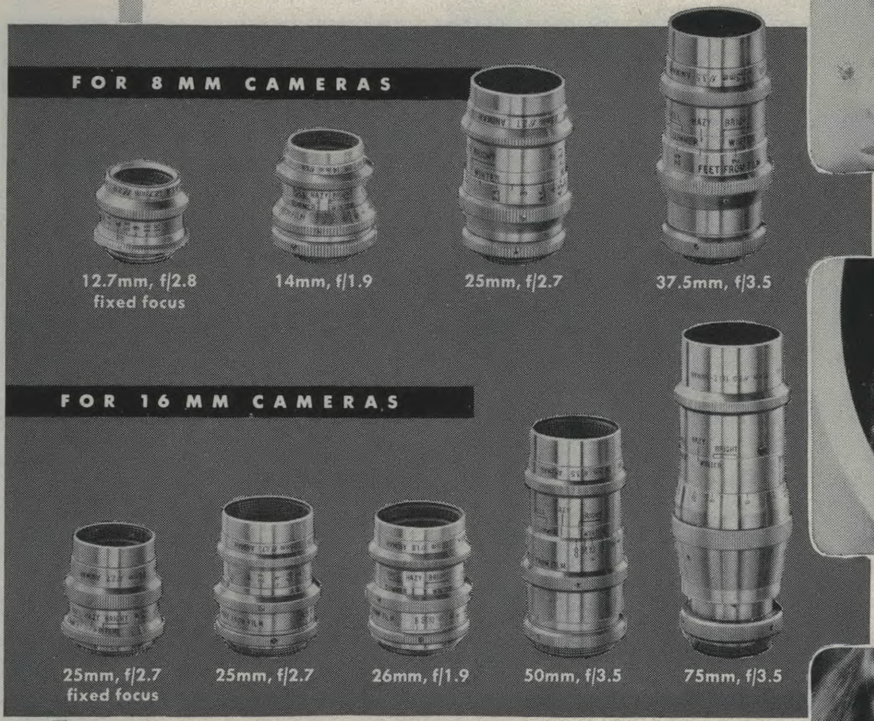
Drive coupling attaches to single-frame shaft of camera and is mated to spring-steel drive arm of motor gear box. This assures that camera mechanism cannot be damaged if a film jam occurs as the spring steel arm drive will shear. This is easily replaced.

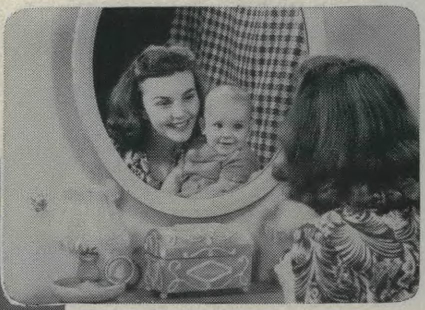
A knurled knob on motor armature percits rotaing for threading. "On-Off" switch built into base. Platform base threaded for ¼" and ⅜" camera tie-down screws. Rubber covered cable with plugs included.

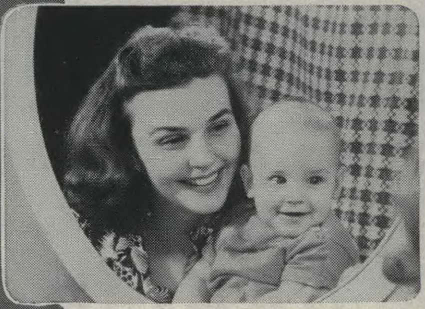
Price $150 . . . Immediate Delivery

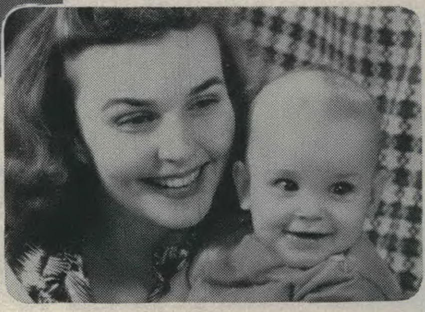
FRANK C. ZUCKER
CAMERA EQUIPMENT CO.
1600 BROADWAY NEW YORK CITY

"For professional quality in Your movies"




For normal shots


For middle shots


For telephoto shots

Shoot with these NEW Bausch & Lomb ANIMAR LENSES

. . . professional quality that means crisp, sparkling, brilliant movies you'll be proud to show.

For years Bausch & Lomb has produced lenses preferred by the world's leading cameramen of Hollywood. Now Bausch & Lomb brings *you* the new Animar series of lenses . . . *at a price you can afford* . . . for making your movies in their full magnificence of fine detail, subtle tone, and brilliant color. Equip *your camera now,* and get the most out of your autumn color shots.

If your dealer does not have the Bausch & Lomb Animar Lenses . . . *write us direct!*

FREE FOLDER!
Get your FREE copy of this new folder on Bausch & Lomb Animar Lenses from your local dealer . . . or write Bausch & Lomb Optical Co., 545-H Smith St., Rochester 2, N.Y.

BAUSCH & LOMB
8mm and 16mm
ANIMAR LENSES

CINEMATIC WIZARDRY of M-G-M's Irving Ries plus imagination and originality of Fred Astair made successful the much-talked-of "dancing shoes routine which highlights "Barkleys Of Broadway." Here Astair, in role of a cobbler, watches nimble feet of Les Clark display a few fancy steps which open the sequence.

THE DANCING SHOES

How the magic dancing shoes were made to tap out a dance routine with Fred Astair in "Barkleys Of Broadway"

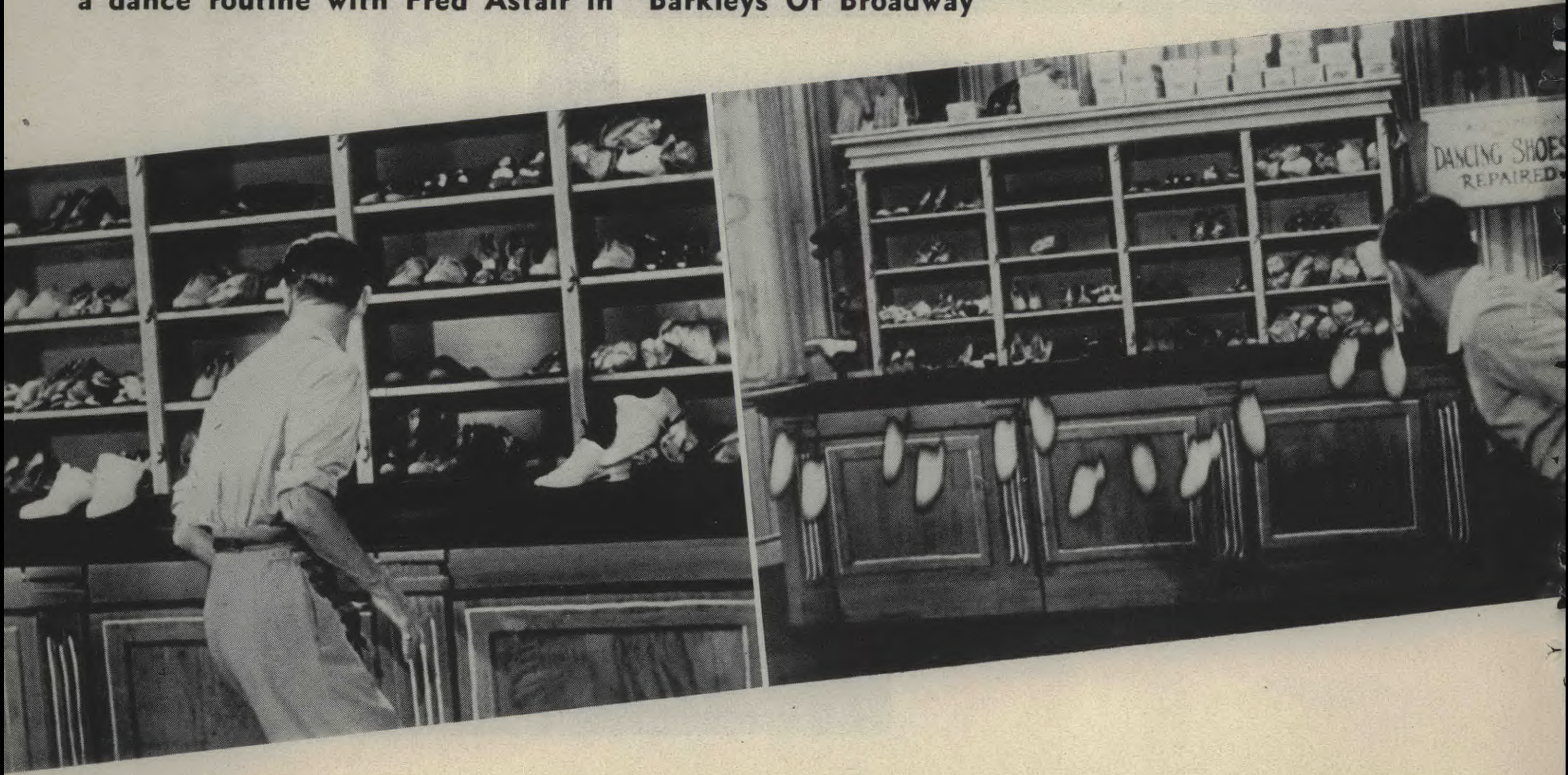
NOT SINCE "Topper" intrigued audiences a decade ago with startling photographic magic has a cinematic effect so fascinated movie-goers as the dancing shoes sequence, which highlights M-G-M's "Barkleys Of Broadway," starring Fred Astair and Ginger Rogers.

In this sequence Astair portrays a cobbler whose shop is frequented by theatrical folk. Dancer Les Clark brings him a pair of dancing shoes to have the taps adjusted and before leaving, executes some nifty steps before the awe-struck Astair. When the shoes, with nobody in them, suddenly do a few tap steps, Astair looks at them in amazement, then decides to try them on. The shoes all but "carry him away." As they go through lightning steps, Astair's body tries desperately to keep up with them.

Suddenly, other dancing shoes magically appear on the counter, tapping to the music. Then six pairs tumble down from the shelves back of the counter and execute a routine around the startled Astair who, still wearing the dancing shoes, joins in, culminating one of the most effective dance numbers ever staged in a Fred Astair picture.

Astair dreamed up the idea for the sequence, planned it out on paper, then took it to Irving Ries, A.S.C., Metro-Goldwyn-Mayer's wizard of optical printing. From here on it was Ries' baby, and what he did with it proves conclusively that "the old master's" well of cinematic wizardry is far from dry despite his 25 years of concocting optical legerdemain at M-G-M.

Together with Ries, Astair worked out the dance routines, then tests were shot in black and white. When the rou-



tine was perfected, and the action was carefully plotted to jibe with the requirements of optical printing, they went on the set and photographed the routines in Technicolor, with Harry Stradling, A.S.C., behind the camera. The action was carefully cued to a playback of music and taps.

When a satisfactory take of the basic scene was completed, the set was cleared of players then completely draped in black velvet. The "invisible" tap dancers—there were six in all—were then photographed as they went through their dance routine over and in front of the black backdrop. The dancers were dressed in black tights and shirts, their hands covered with black gloves and their faces similarly obscured with black masking. Only their white shoes were visible. Guide marks placed on the velvet covering the floor served as a guide for the dancers, so their movements would be kept in proper relation with that of Fred Astair when the two takes were superimposed. A pair of ballet slippers also enter the scene momentarily on invisible dancing feet, and this required still a third take, which was likewise superimposed—a matter that required careful and exact timing.

IRVING RIES, A.S.C., head of M-G-M's optical printing department, noted for pulling cinematic rabbits out of hats for producers there, planned and executed the unique optical effects which made the dancing shoes sequence so successful.

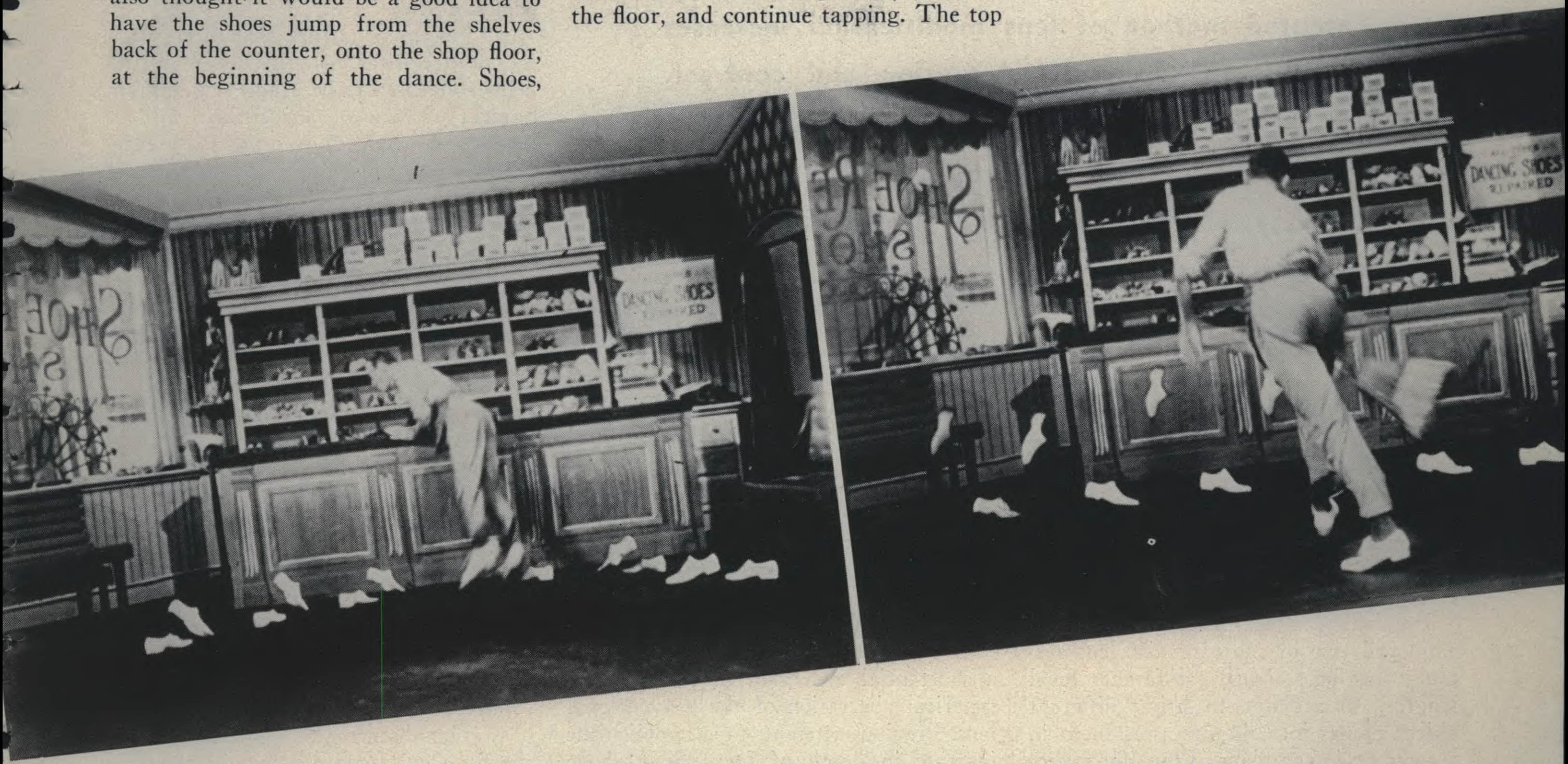
As if the problem of superimposing six pairs of dancing shoes—actually dancing, that is—were not enough to toss in the lap of Ries for one production, Astair also thought it would be a good idea to have the shoes jump from the shelves back of the counter, onto the shop floor, at the beginning of the dance. Shoes, especially with feet in them, just don't fit in narrow shelves and besides the black-masked dancers would have to stand upright in order to execute the jump. Ries solved this problem by having the top row of shelves cut off for this take. This enabled the dancers to stand on the next row of shelves, begin their routine with a few tap steps, jump to the floor, and continue tapping. The top section of shelving was later replaced for balance of the sequence.

The big problem encountered by Ries was that of keeping each dancing shoe visible in its entirety at all times, except when it passed momentarily behind Fred Astair dancing in middle of the floor. For, normally, when a dancer's leg crossed between camera and the shoe on the opposite foot, that shoe would be obscured from view of the camera. In order to make the illusion of the shoes dancing alone seem real, it became necessary to "fill out" or complete the image of those shoes thus obscured, in the initial negative.

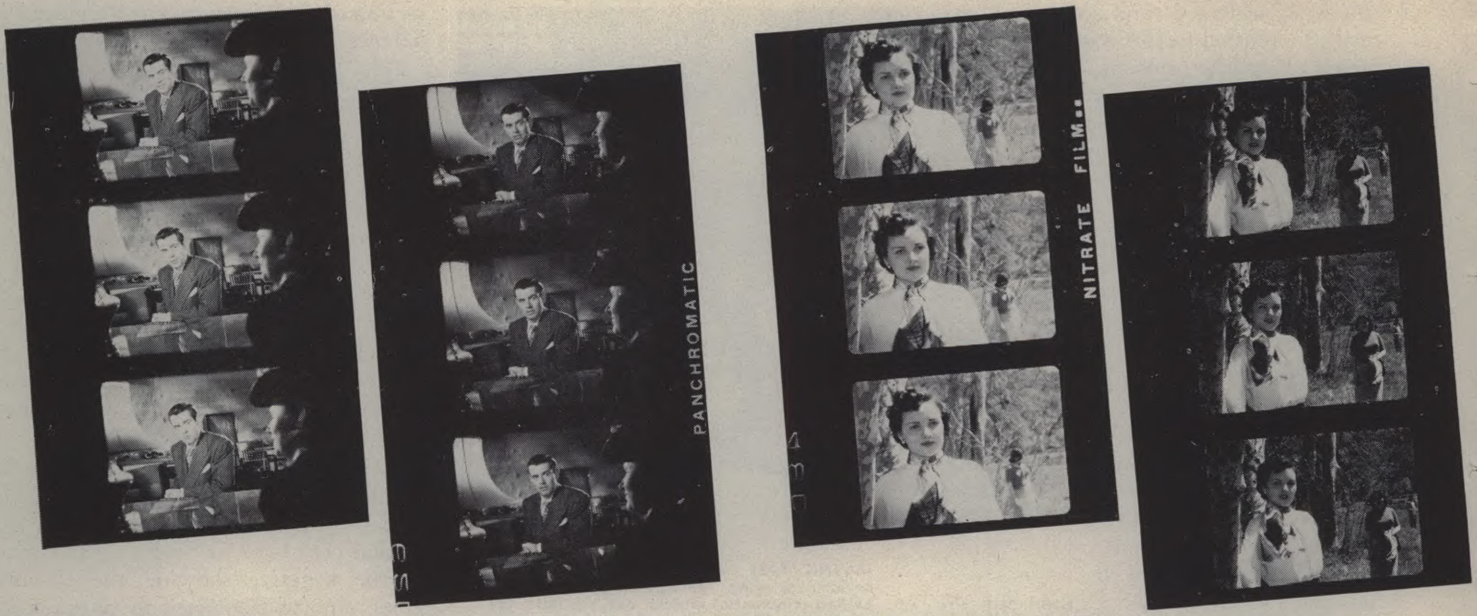
Reis solved the problem by employing simple animated cartoon technique. He first projected frame by frame on animation celluloids or "cells" that portion of the negative showing the obscured shoes. An artist outlined the missing portions of the shoes on the cell, later inked them in, and Ries photographed it. The result was superimposed in the printing.

As the picture was being photographed in Technicolor, this meant that the cells had to be photographed three times—once for each of the three color negatives that comprise the Technicolor system. Subsequently, these negatives were combined with the first to produce the complete image. "From there on," said Ries,

(Continued on Page 335)



DANCING SHOES routine is partially depicted in this four-frame clip from "Barkleys Of Broadway." When a pair of shoes left for repair do a few dance steps, the amazed Astair tries them on and is set to dancing, too. Other shoes tumble from his shelves and dance a pattern of steps around the gyrating Astair. Shoes, which were superimposed, were first photographed on dancers masked in black, against black background, then printed in by travelling matte process.



FILM CLIPS show comparison of scenes photographed with and without a Garutzo lens. First clip is of an interior shot with a 35mm. lens at f/2.8. Foreground is 3′ 2″ and background 7′ from camera. Second clip shows same scene shot with Garutzo lens at same stop, with greatly improved depth of focus. Third clip was photographed with a 2 inch lens at f/11, follow focus. The fourth clip is of same scene made with a Garutzo lens fixed at f/11. Greater depth of focus obtained with this lens is evident in the sharpness of image of third figure in deep background.

The Garutzo Lens In Motion Picture Photography

Patented method of lens modification increases focal depth; enhances definition and contrast.

By R. M. NEWBOLD

WHEN Stephen E. Garutzo added an annular lens element—a glass disc with a hole in the middle—to the multi-element system of a photographic lens assembly, he confirmed what he had long suspected: that it was thus possible to materially increase depth of focus and greatly enhance definition and contrast. This was the beginning of the Garutzo principle of modifying or balancing photographic lenses. With some lenses, one annular element added is sufficient to complete the Garutzo balancing principle; with others, two or more annular elements may be required.

Previously, optical experimenters had employed two or more coaxial lens systems, having slightly different focal lengths, to attempt to bring different object planes into simultaneous focus in a common image plane. Thus, for example, one lens system would be employed to sharply focus foreground objects and another coaxial system employed to sharply focus the background and superimpose such images on the foreground image.

The difficulty of this arrangement was, however, that secondary images, e.g., that of the background object produced by the foreground objective, caused a general fogging or blurring of the composite image, which detriment more than offset the benefit of the increase in focal depth.

In general, we are told, the Garutzo modification of a photographic lens, which is a patented method, accomplishes two major improvements: (1) the focal depth of the modified objective is increased and (2) the definition and contrast of the image is greatly enhanced by a substantial reduction in the vestigial spherical aberration of the conventional lens. Previous attempts to accomplish the increase in depth of focus, first above mentioned, have had no success because the modifying elements have introduced other undesirable aberrations.

The diaphragm, instead of being used to create an illusion of increased focal depth by means of small apertures, as in conventional lenses, is employed in the Garutzo modification to increase the plasticity of the photograph, thereby intensifying the three-dimensional effect.

Some of the more readily demonstrable superiorities claimed for Garutzo balanced lenses are:

1. The great latitude that comes with the deep critical field produces an unbelievable ease of operation. A minimum number of focusing adjustments are required; the risk of missed focus is greatly reduced; the importance of hitting exact marks by the actor is minimized; tedious rehearsals to coordinate action and camera movement become unnecessary—all of which relieve both actor and crew from inhibitions and tensions with consequent savings of film, time and money.

2. Since the deep field of critical focus obtains with full apertures, neither small apertures nor unbalanced lighting is necessary. This introduces a new ease of set-lighting. The Garutzo balanced lenses, transmitting a uniform density over the entire field, require only uniform lighting over the entire set. The saving in time by this method is alone considerable, but additionally, further savings are guaranteed by the lower light levels required for the larger apertures at which these lenses carry their full depth of focus.

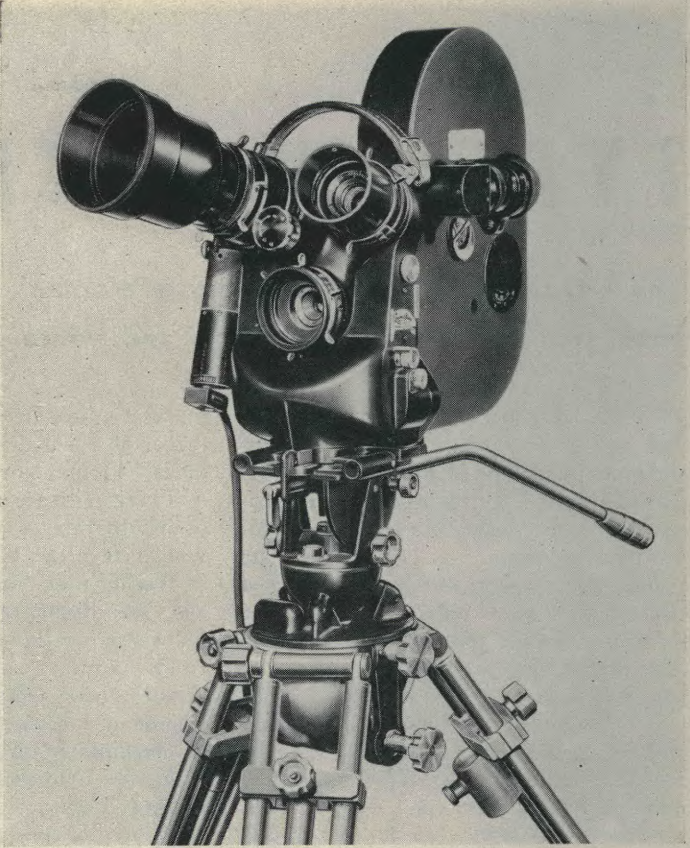
3. The absence of distortions at wide apertures will, particularly with the wide angle lenses, provide endless opportunities for their use in ways that will likewise effect further economies. Matte

(Continued on Page 342)

Eclair Camerette Makes U.S. Debut

French import boasts many unique features including direct through-the-lens viewfinder.

By BENJAMIN BERG



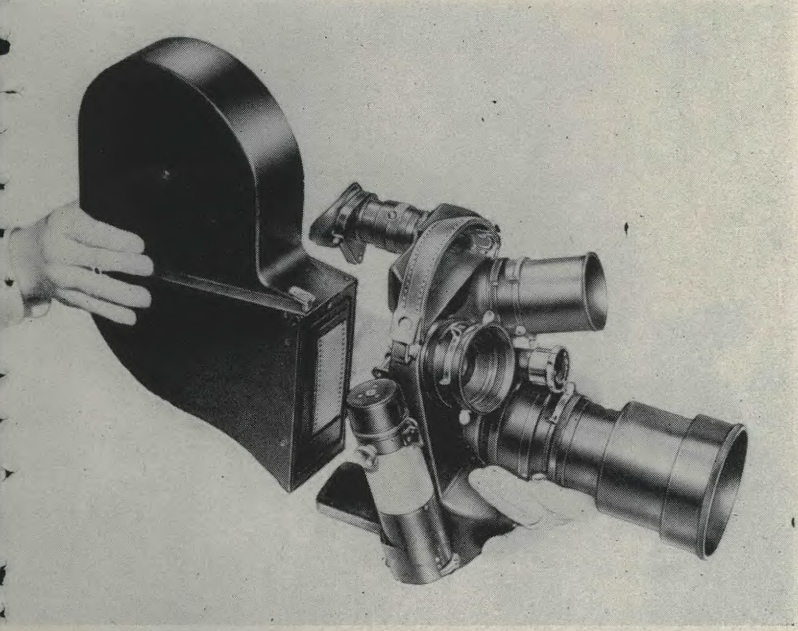
THE COMPLETE Camerette outfit — camera, tripod and tripod head, with 6-8 volt motor drive. Camera is adjustable for a wide range of speeds for which a handy built-in tachometer insures accuracy.

A COMPLETELY new portable motorized professional 35mm. camera has recently been introduced in America by the Camera Eclair Company, of Paris, France. The camera, known as the Cameflex in France, and trademarked the Camerette in the United States, is the product of five years of research by Messrs. Coutant and Mathot, following the suggestions of the best French cameramen of the Commission Superieure Technique.

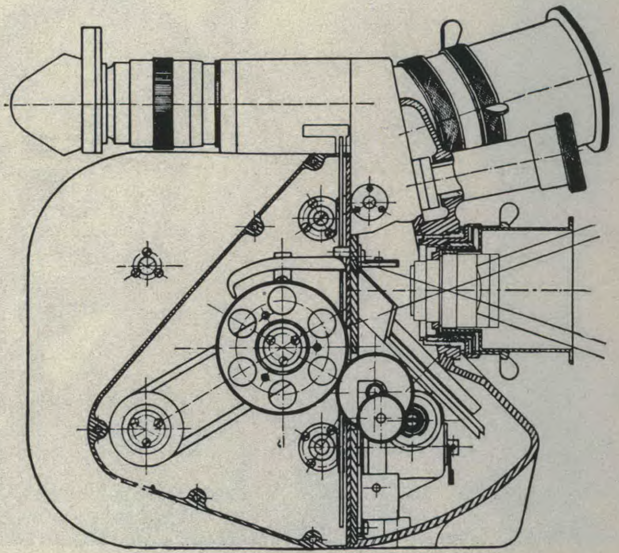
It is designed to combine the advantages of the heavier type production cameras with the portability of news cameras, and fills a long felt need for a precision portable camera. Of prime interest are its light weight, unique ratchet movement, 200° adjustable reflex shutter, and instantly interchangeable film gate magazines. It can be hand held, set upon its special telescopic tripod, or fastened to any other solid object by means of its special clamp. The Camerette equipped with 400 ft. magazine weighs only 14 pounds. The whole design is such that the camera rests against the operator firmly when hand held, assuring extreme steadiness. The ratchet movement is both rugged and dependable. The reflex viewing principle allows accurate framing and focusing during shooting.

The camera, built in two parts, is made of pressure die castings of aluminum alloys. The main unit comprises the turret, the operating mechanism (claws, shutter, reflex), the front section of the gate, the view finder, and the tachometer. The second part consists of the automatic film gate magazines,

(Continued on Page 332)



CAMERETTE is built in two sections. Main unit (right) comprises the three-lens turret, operating mechanism, front section of gate, viewfinder, and tachometer. Second section consists of automatic film gate magazine containing sprocket, pressure pads and footage indicator.



SCHEMATIC diagram of the Camerette showing unique 200° adjustable reflex shutter which enables operator to view the scene as it is being photographed. Revolving mirror disc, which is part of the shutter, reflects image upward toward prism of adjustable viewfinder.

TYRO IN TECHNICOLOR . . .

The artfully photographed 'Forsyte Woman' demonstrates how successful has been the transition from black and white to Technicolor for Joseph Ruttenberg, A.S.C.

GREER GARSON's leading men come and go with each new picture, but the most important man in her cinematic life still is Joe Ruttenberg, her cameraman. Joe has been Miss Garson's favorite cameraman ever since his astute photography and Miss Garson's inspired performance made *Mrs. Minniver* the Academy Award winner for 1942, and also netted Oscars for their individual contributions.

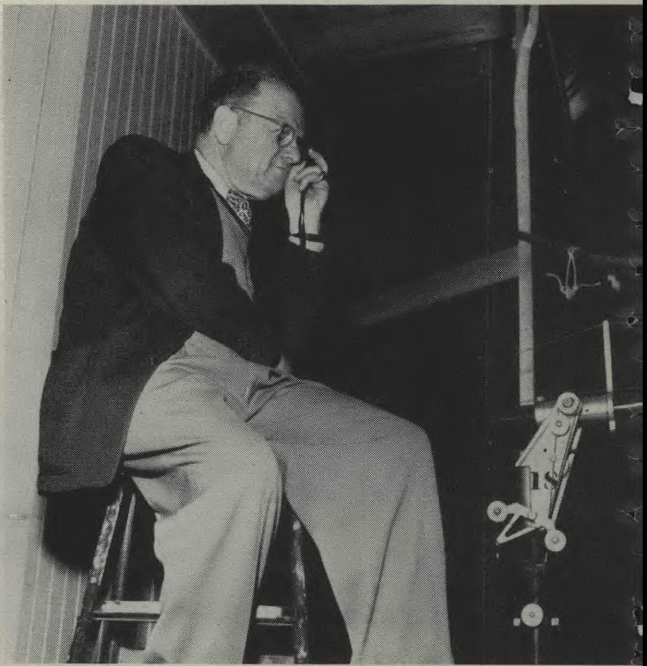
Joe Ruttenberg has photographed nine starring vehicles in a row at M-G-M for Miss Garson: *Mrs. Minniver, Random Harvest, Madame Curie, Mrs. Parkington, Valley Of Decision, Adventure, As You Desire Me, Julia Misbehaves,* and her most recent, *Forsyte Saga,* since retitled *Forsyte Woman.* The first eight were black and white pictures. *Forsyte Woman* is in Technicolor and marks a milestone in the cinematographic career of Joe Ruttenberg in that it's his initial Technicolor picture.

There still are a lot of top directors of photography in Hollywood studios who have never photographed a picture in Technicolor, and until a few months ago, Joe Ruttenberg was one of them. So we naturally were interested in the reaction of this two-time Academy Award winner upon receiving the *Forsyte* assignment, and particularly in learning if he encountered problems in adapting his black and white lensing technique to the untried Technicolor medium.

"There is nothing mysterious about photographing a picture in Technicolor," he said. "There is 'color' in black and white pictures, too—varying degrees of light and shadow, tones of black, grey and white. From a compositional standpoint, real colors replace these tones in a Technicolor picture. Instead of painting with light and shadow, as we do in black and white, our colors are ready made—by nature, in the case of most exteriors, and by the art director and his technicians in the interiors. So it becomes a matter of knowing how to light each set, or more correctly—how to balance the light to bring this color to the screen in the most natural and effective manner." Ruttenberg, of course, gives full credit for the invaluable guidance and council rendered by the Technicolor consultants who worked closely with him on the picture.

As to his immediate reaction, upon receiving the Technicolor picture assignment, Ruttenberg indicated he did what any intelligent cinematographer would do—boned up on the subject before start-

MIDGET VIEWFINDER is Ruttenberg's invaluable gadget for lining up the camera. It enables him to spot camera setups with a minimum of time; is much handier to use than the larger Mitchell-type finders, he says. Approving a choice angle for "Forsyte Woman" is director Bennett.



ANOTHER GADGET which Ruttenberg uses to advantage is the viewing glass for checking lighting and contrasts. Here he keeps watchful eye on set as gaffers arrange the lighting for a scene in the Metro-Goldwyn-Mayer production, "Forsyte Woman."

By RALPH LAWTON

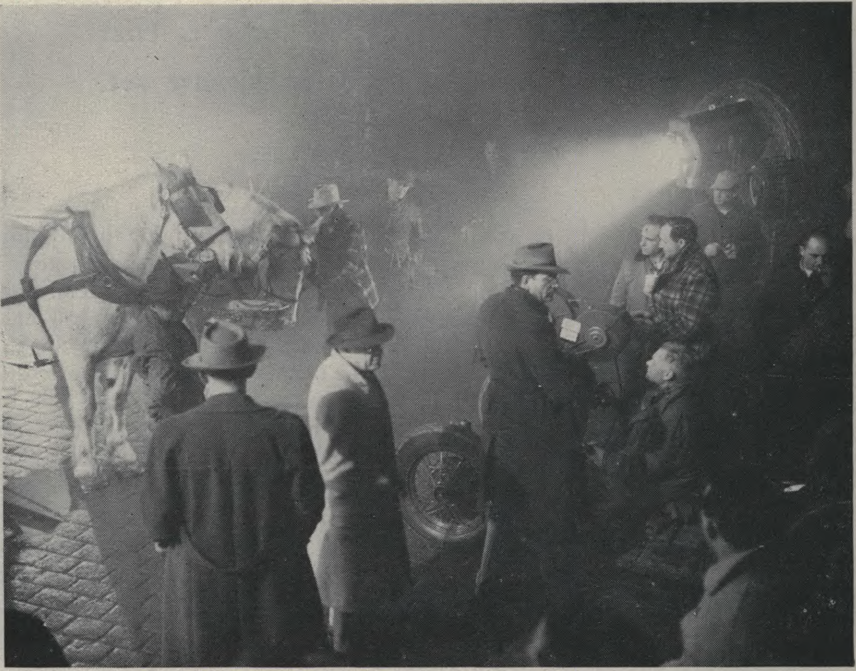
ing to shoot. Of course, he points out, one could hardly work on the M-G-M lot, what with so many Technicolor pictures being shot there all the time, without picking up plenty knowledge about color photography. There's unusual camaraderie among the cinematographers there, too, and it's not considered naive or embarrassing for any cameraman to go to a contemporary for a bit of advice. The best of them consult with one another on set lighting and photographic problems every day. So if Joe Ruttenberg needed any preliminary briefing before starting his camera rolling on *Forsyte Woman,* the knowledge was quick in coming and dependable.

Asked if he shot a few tests in Technicolor in advance as a check, he said the only pre-production tests he made

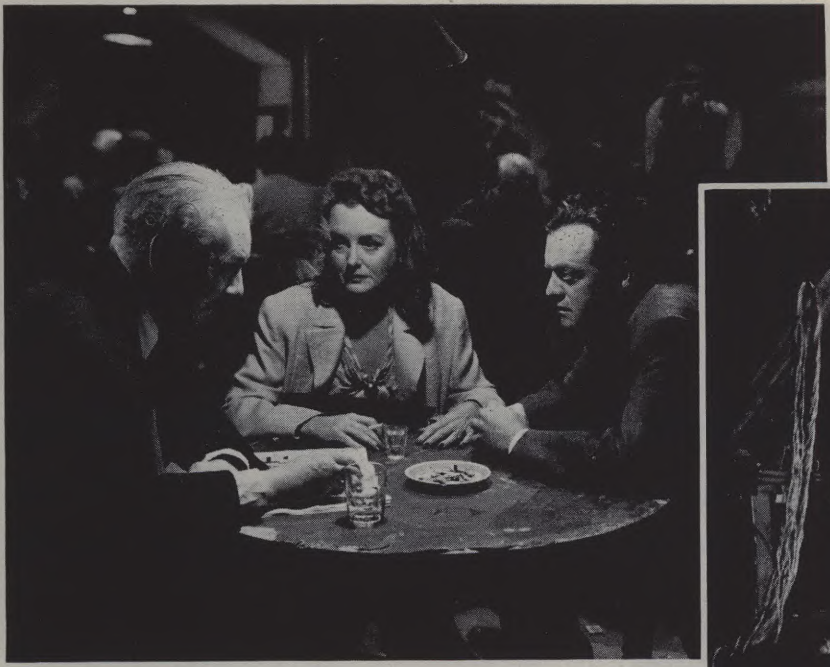
(Continued on Page 340)

RIDING CAMERA BOOM with his operator, Herb Fischer, is Joe Ruttenberg, A.S.C., as he lines up the longest take in "Forsyte Woman" under watchful eye of director Compton Bennett. In foreground, Technicolor technician Henry Imus keeps camera in focus by remote control.

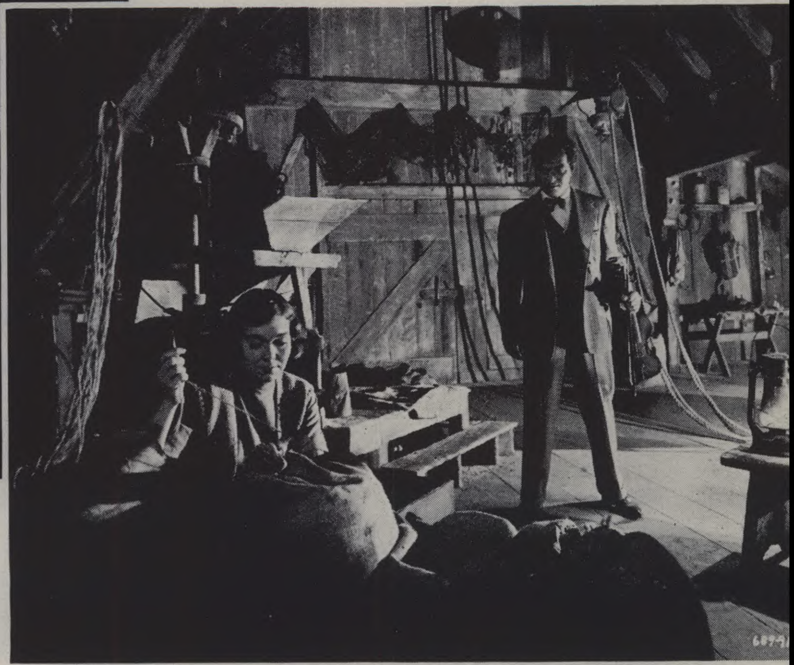
TRICKIEST SET in "Forsyte Woman" was this 'exterior' built on M-G-M's largest sound stage. Careful attention to lighting the foreground and the hand painted backdrop enabled Ruttenberg to obtain complete illusion of reality.



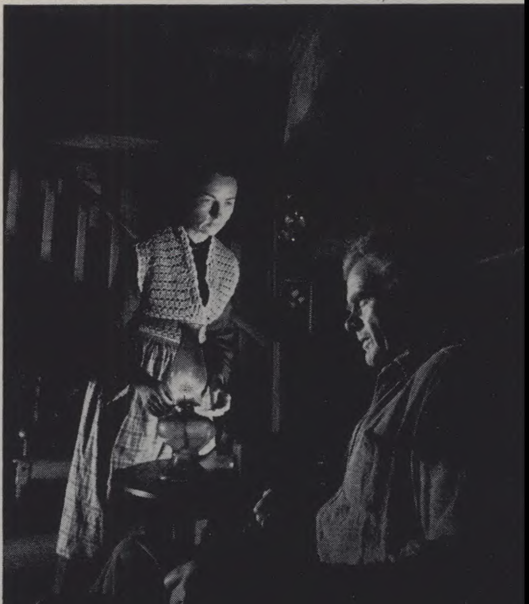
FOG SCENES, at which Joseph Ruttenberg is an old hand, saw him dust off some of his old lighting tricks for "Forsyte Woman," his first Technicolor picture. Cameramen still talk about his dramatic photography of fog scenes in "Dr. Jekyll and Mr. Hyde," which he photographed for M-G-M in 1941.



SOURCE light for this scene was shaded drop light above the table. Robert Surtees, A.S.C., used a single photoflood bulb in the fixture as sole illumination for group.



SOURCE light here is quite obviously the bright sun streaming through door of granary. Effective lighting by Ted McCord, A.S.C., made the illusion very real in "Johnny Belinda."



NOTE how illumination on players in this scene appears to come naturally from the table lamp, result of Ted McCord's deft lighting skill and careful attention to detail.

Source Lighting

Establishing basic source light is first step in lighting the motion picture set.

By CHARLES LORING

IF IT WERE possible to select one basic technical rule as a formula for success in motion picture lighting, that rule would be: "Follow the natural light source." Such an arbitrary rule is not, of course, a cure-all for every situation—nor can it always be interpreted literally. But the fact remains that every lighting pattern in real life has its basic natural source, and that if the cameraman re-creates a lighting situation for the screen in similar terms, he can hardly go wrong.

A surprising number of cameramen and directors of photography have never found a functional method of plotting the lighting of a sequence. This applies not only to amateurs, but to a great many professionals and semi-professionals who earn their living by filming commercial, industrial, or educational motion pictures. To these technicians each new lighting setup is a challenge to be met only by dint of much blood, sweat, and tears—to say nothing of costly trial and error. Actually, the whole problem of lighting becomes greatly simplified when a systematic approach is used.

The cameraman's principal key to the lighting of each sequence is the script itself. Even though the writer may not have indicated camera and lighting directions in his treatment, certain moods are suggested by the action and dialogue as written, and it is up to the cameraman to study these elements and translate them into terms of light and shadow. Further clarification of the mood and lighting key of specific sequences will arise out of conferences between the cameraman and the director. Quite often, the director's interpretation of a sequence may vary greatly from the mood indicated in the script, but since he is the

(Continued on Page 336)

When The Director
Calls—"Camera!"—

The Cinematographer
Demands—

And The Star
Requests—

The Preference Of
The "Lab" Operator—

EASTMAN
PLUS X
and COLOR
NEGATIVES

J. E. BRULATOUR, INC.
Distributors

16mm. and 8mm. Cinematography SECTION

The American Cinematographer Award

New Incentive For Amateur Movie Makers

By ARTHUR E. GAVIN

IN THE more than two decades that have elapsed since introduction of the first 16mm. camera gave impetus to the hobby of amateur movie making, there have developed a great number of proficient ciné photographers whose exceptionally fine work rarely receives recognition beyond the filmer's own circle of friends.

Until now, these amateurs have had no means of gaining recognition for their work on the advanced or semi-professional level which the quality of their photography entitles them. In the world of amateur movie making, there are two identifiable levels of workers—(1) the snapshooter, usually the novice who has yet to discover the opportunities that his cine camera can open for his creative abilities, and (2) the advanced or serious amateur movie maker, once a dub or snapshooter, but who has applied sound photographic principles and creative ability to his work, and in recent years has come up with 8mm. or 16mm. films that win prizes and are talked about.

That these serious workers should be encouraged to go on to bigger things cannot be denied, and while none of them labor under the delusion that Hollywood's studios hold promising jobs for them, if only their work could be shown the right people there, there are comparable satisfactions to be gained by these serious filmers providing there is ample incentive to pursue their chosen photographic hobby.

In announcing its first annual National Amateur Motion Picture Competition for members of amateur cine clubs, the American Cinematographer is taking the first important step toward creating world-wide recognition for the cinematographic abilities of America's outstanding amateur movie makers.

Because most of these filmers are members of local amateur movie clubs, and if not they should be, American Cinematographers' annual competition is to be conducted for and through the several hundred amateur movie clubs throughout the U.S. The officers of these clubs are being invited to choose, from among the best films made by their members since January 1, 1948, the best 8mm. and the best 16mm. pictures and enter them in A.C.'s competition under the auspices of their club.

The competition, which is to be conducted annually, is for the American Cinematographer Award, which will go to the maker of the best 8mm. or 16mm. film entered in the competition. In addition, six achievement awards will be given the six next best films. Companion awards will also be made those clubs whose members win one or more awards in the competition.

Movie amateurs who are presently not a member of any cine club may also participate in the competition. These filmers should contact the secretary of their local cine club and indicate their desire to submit a film for consideration as an entry. The club will evaluate the film, along with others submitted by non-members and submit the best 8mm. and the best 16mm. non-member film to American Cinematographer's judging committee.

Each club will be limited to entering one 8mm. and one 16mm. member-made

(Continued on Page 343)

AMATEUR MOVIE CLUB MEMBERS! AMATEUR MOVIE CLUB SECRETARIES!

CLIP THIS coupon and give to the directors of your club with request that they fill it out and mail at once for entry blanks for American Cinematographer's 1950 Amateur Motion Picture Competition, announced elsewhere in this issue.

EDITOR,
American Cinematographer,
1782 NO. ORANGE DRIVE,
HOLLYWOOD 28, CALIF.

Gentlemen: Please send us our allotment of entry blanks and complete details for American Cinematographer's 1950 Amateur Motion Picture Competition. Same should be mailed to:

M____________________

Title____________________

Name of Club____________________

Mailing Address____________________

City____________ Zone_____ State_______

COMPETITION LIMITED TO CLUBS WITHIN THE CONTINETAL UNITED STATES

Announcing

The American Cinematographer's

NATIONAL AMATEUR MOTION PICTURE COMPETITION

FOR AMATEUR MOVIE CLUB MEMBERS

for the

AMERICAN CINEMATOGRAPHER AWARD

AND SIX ACHIEVEMENT AWARDS FOR CINE PHOTOGRAPHY

Closing Date for Entries . . . MARCH 1, 1950

Winners will be Announced MARCH 15, 1950

Competition open to members of amateur movie clubs within the United States. Non-movie-club-members may also compete by submitting films to their local movie club for entry. (See rules.)

Judges will be leading directors of photography of Hollywood's motion picture studios. Names will be announced next month.

RULES

- Competition open to members of amateur movie clubs within the U.S. Clubs will evaluate and enter the best 8mm. and best 16mm. film completed by a member since January 1, 1948. Individuals (non-club-members) may also compete by submitting films to their local amateur movie club for entry at discretion of the club. (Refer to your local camera store for name and address of local club, or write the Editor.)
- Amateur movie clubs may enter films not to exceed 4, as follows:
    - Best 8 mm. member-made film.
    - Best 16mm. member-made film.
    - Best 8mm. non-member film.
    - Best 16mm. non-member film.
- Film length limits: 16mm.—800 feet. 8mm.—400 feet.
- Entry Fee: $1.00 for each subject submitted.
- Each entry must be wholly amateur produced, except for any titles and film laboratory work. Any sound accompaniment must be recorded exclusively by the entrant or club submitting the film.
- Each film reel as well as its container must be plainly and securely labeled with owner's name and address **plus** name and address of club entering the film.
- All films must be shipped on reels and in cans to contest headquarters fully prepaid. Entry blank and fee should be mailed in advance of film. Films will be returned directly to owner via Express collect, fully insured. **Be sure** to indicate value on your entry blank for which films are to be insured.
- Please indicate make and model of camera and the lenses used in making your picture, also brand of film used. This information will have no bearing on evaluation of films, but is desired by judges for reference.
- Do not submit any films before **January 1, 1950.** Send only your entry blank which may be obtained by writing The Editor, American Cinematographer, 1782 No. Orange Drive, Hollywood, Calif.

Club Secretaries: *Write today for your club's allotment (4) of entry blanks, indicating your club's desire to participate.*

THE EASIEST WAY for the amateur filmer to arrive at a standard assuring brilliant, consistently exposed color movies is to shoot under a light condition that is least variable.

Light On The Subject — Outdoors

By CANFIELD COOK

Reprinted from "Color Movie Making For Everybody," by Canfield Cook . . . published by Whittlesey House.

MOST COLOR filming is done outdoors beneath the sky. There are two good reasons for this. First of all, we think of the great outdoors as offering greater color possibilities. Secondly, outdoor filming is less bothersome from a light-supply point of view. There are no lamps, wires, and stands to worry about. There is just a good old sun that will shine down directly on our subjects and provide light aplenty, sometimes in a soft and diffused manner when filtered by the clouds or haze.

There is one great disadvantage about the sun. We can't reach up and shift it to the desired position or turn its brilliance up and down. We must make the very most of what it offers at the moment filming is to be done—unless there is time to wait for its fuller cooperation. And the sun, of course, doesn't always seem to shine. There it is, we know, behind those clouds or that wall or above those closely knit branches or foliage, but what we want is light on the subject.

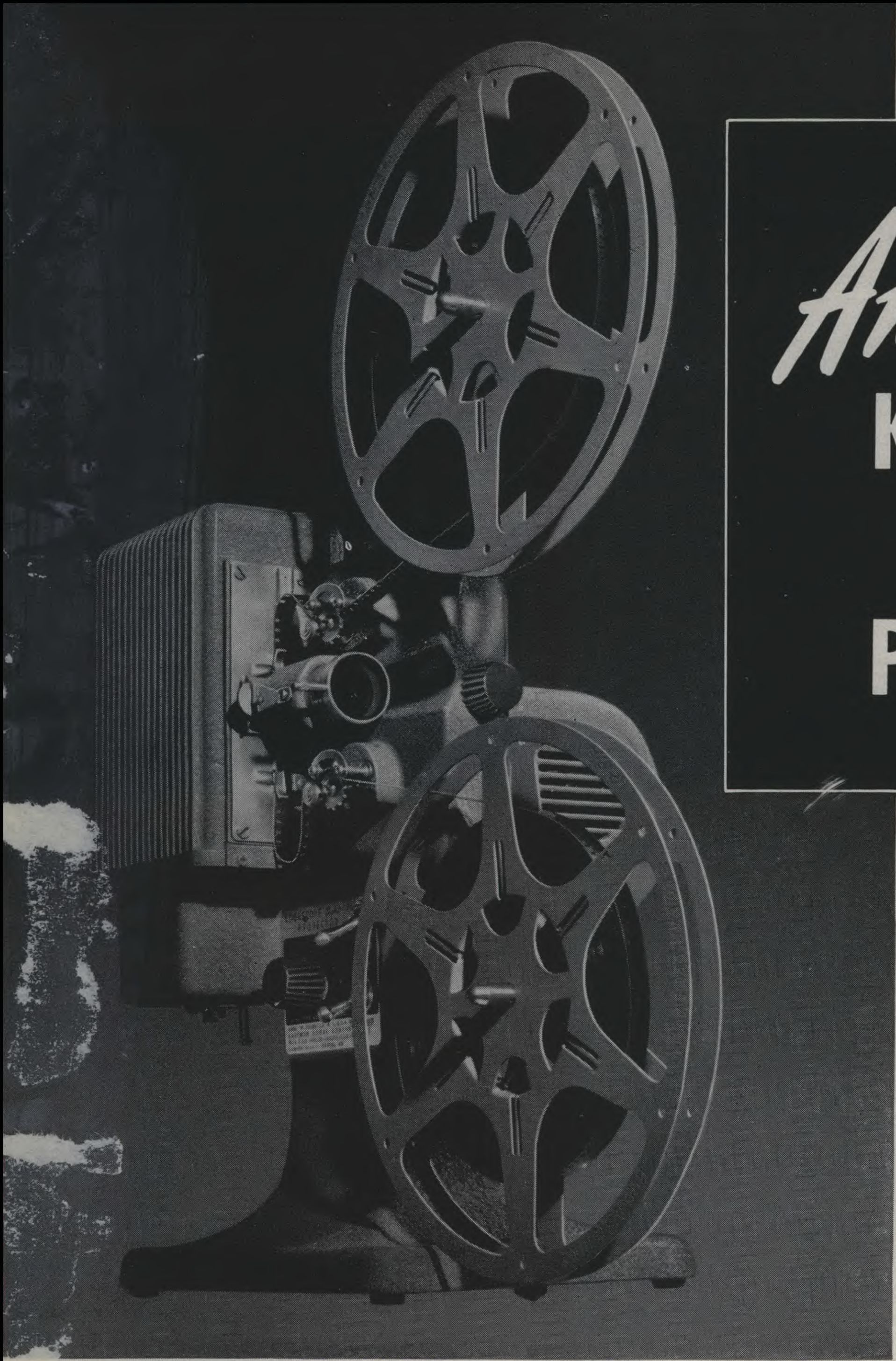
Most color filmers think of color filming as possible only with a brilliant sun. Nothing could be further from the truth. Color motion-picture film has ample "speed" for other than sunny days; as a matter of fact, the filmer who sticks to brilliant sun exposures will end up with footage that is monotonous through its bright sameness. People living in low-rainfall areas get pretty fed up with sun, sun, sun. They long for rainy days and relief of dull skies. And color film will take pictures on those dull days—yes, even on rainy ones.

The great trouble with most filmers is that when bright conditions change they think in terms of light quantity. "There isn't enough light," they say to themselves. That is the wrong approach, for there is usually enough light on almost any kind of day. Your camera patiently waiting, ready and able to do its job, will regard the situation very differently. It won't worry. Its light appetite remains the same on bright days or dull days. It simply requires the same amount of light all the time. Here is the reason:

The film behind your camera lens is composed of chemicals which react to light. When light strikes the film there is a chemical change. The speed of that change is dependent on the amount of light. A certain amount of light does the job precisely so that the filmed scene finds its counterpart behind the lens. If there is too little light to register, the result is under-exposure, which means dark pictures. If there is too much light, the chemical reaction is too great, the film counterpart of the original goes beyond the proper color value, and over-exposure, with washed-out-looking pictures, results.

The whole process is something like the digestion story told by Dr. Rockwell, of vaudeville and radio fame. Dr. Rockwell contended that mastication should not vary from one mouthful to another. If a piece of steak were the subject, the digestive juices, altered by chewing, would be ready and waiting to do their digestive job. Should the steak be swallowed before sufficient chewing warning, the digestive juices would be so taken

(Continued on Page 334)



Announcing...

KODASCOPE *Eight-71* PROJECTOR

UNSURPASSED SCREEN BRILLIANCE— WHEN IT'S NEEDED . . . FAST, PRECISE f/1.6 LUMENIZED LENS . . . 400-FOOT FILM CAPACITY . . . COOL, QUIET OPERATION. IT'S THE BUY OF THE 8MM. FIELD AT ONLY $97.50.

"EIGHT-71's" superb, completely *Lumenized* optical system, featuring the Kodak Ektanon 1-inch *f*/1.6 Projection Lens, teams with a powerful 750-watt standard lamp to provide abundant illumination for average use. But whenever you need it—for *big* 8mm. screenings in spacious rooms—*super*-brilliance is at your finger tips. Just touch an ejector to free the standard lamp . . . replace it with a 1000-watt accessory lamp . . . and Kodascope Eight-71 Projector provides unsurpassed 8mm. screen brilliance!

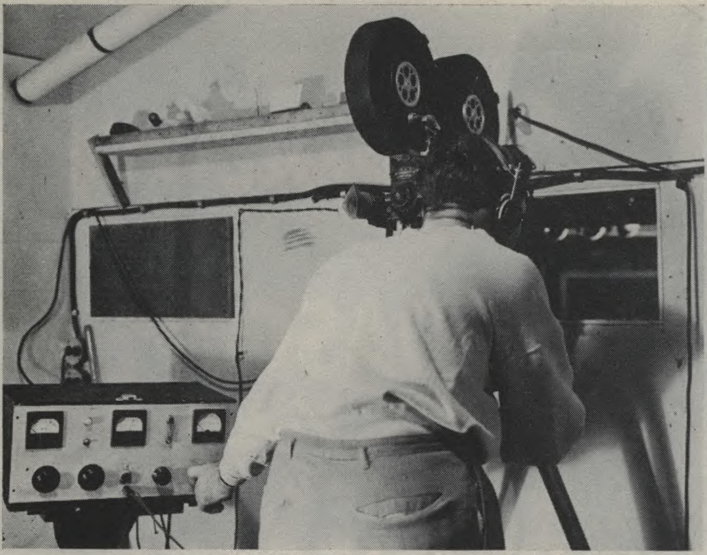
Other features, too—400-foot film capacity for 30 minutes of uninterrupted movies. Easy-action controls handily centered on a panel at the side of the machine. Motor rheostat that lets you adjust film flow. Cast-in handle for convenient carrying. Friction-free safety shutter, moulded-rubber interior drive, and an easy-running, air-cooled motor for *quiet*, comfortable operation.

There's every assurance for long projector life . . . every safeguard for your film. Unique baffling in the condenser and aperture systems cuts out nonuseful light to eliminate excess heat at the film gate. An efficient fan and air-circulating system keep the whole machine cool even after hours of operation. And there's an air-operated safety shutter that cuts in automatically when film flow is adjusted below the safety point.

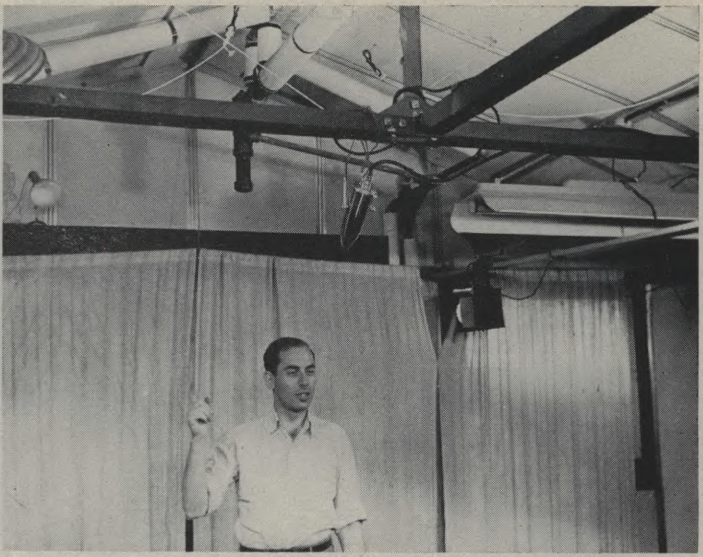
Trimly handsome . . . of rugged, die-cast aluminum construction . . . thoroughly competent on every count, *this* projector sets new standards of 8mm. value. Plan to see the "Eight-71" Projector soon—at your Kodak dealer's.

EASTMAN KODAK COMPANY, Rochester 4, N. Y.

Kodak
TRADE-MARK



TECHNICAL equipment is all concealed in this room which overlooks the classroom. Both photography and projection are accomplished through the two rectangular ports. One operator runs the camera, also rides gain on sound through an audible volume indicator.



CLOSEUP of the front of the classroom during the filming. Microphone may be seen hung from ropes which pass over pulley system to the photographing system in the next room. Curtains behind the student conceal the screen on which films are screened later for the class.

Teaching Speech With 16mm. Movies

Movies made in classroom aid students sharpen speaking technique.

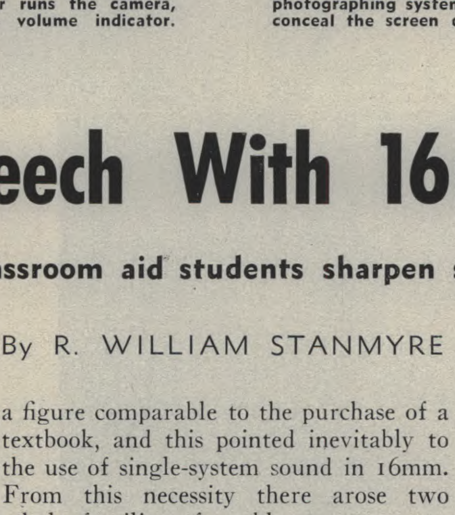
By R. WILLIAM STANMYRE

IF ANY minor good may be distilled from the evils of war, then surely this is a case in point: fossilized American Education has been jolted loose from its platitudes by the wholly fine job of teaching with visual aids demonstrated by the armed services during the war.

The result is almost a renaissance in those branches of education where the audio-visual library is most nearly adequate. On the other hand, educators whose particular fields are less generously represented in the literature are boldly conducting their own experiments in the new medium. This is a general report on one such experiment.

Over four years ago, the director of the School of Speech at Syracuse University approached the author with the idea of filming entire classes in public speaking. The theory behind this proposal is pretty much in line with the much-quoted expression of Bobby Burns: "Would to God the giftie gie us, to see [and hear] oursel's as others see us."

The project would be reasonably free of technical bugs if it were feasible to record double-system in 16mm. or single system in 35mm. However, it was obvious that the thing could develop into a useful tool for speech training only if the cost per student could be held to a figure comparable to the purchase of a textbook, and this pointed inevitably to the use of single-system sound in 16mm. From this necessity there arose two whole families of problems, one group primarily associated with the technical shortcomings of the medium and the inadequacies of its instrumentation, and the other stemming from the behavior patterns peculiar to that entity called "the Class."



SYRACUSE University public speaking class watching films of their own speeches. Projection room at rear also houses camera.

The aim was to photograph and record each student as he delivered a speech as a regular class assignment; the problem was to get satisfactory sound and picture simultaneously and consistently on a single reversal film. This would logically point to the use of a slow, fine-grain stock. So the first experiments were run in a regular classroom with lighting of 250 foot candles. It soon became evident that no amount of reasoning could induce the student to act naturally in front of the lights. In addition, the novelty of a sound camera in the back of the classroom was generally sufficient to upset the equilibrium of the group. Some instructors encouraged a festive mood to the occasion; others started each class session with a lengthy dissertation as to why the student should pay no heed to the lights, the camera, the microphone, or the photographer. Neither attitude might be considered conducive to an orderly classroom. Too, the mechanics of frequently reloading the camera resulted in a definite and disconcerting suspension of normal procedure.

If these problems sound discouraging,

(Continued on Page 338)

You can almost sniff the season!

A crisp autumn day makes you want to reach for your camera as quickly as you do for a woolen shirt.

People *do* things when the hot summer is done and the air takes on a tang. And people *"doing things"* calls for movie making—and Ansco Hypan Film.

For Hypan's fine grain and brilliant contrast will bring sharp, clear images to your movie screen—objects and people that "stand out" from their backgrounds and capture for you a "real life" feeling.

Add to this Hypan's marvelous panchromatic color balance and you're almost certain of outstanding results!

Why not give yourself this Ansco advantage the very next time you take your own movies? Your dealer has Ansco Hypan in both 8mm and 16mm rolls. **Ansco, Binghamton, New York.** A Division of General Aniline & Film Corporation. *"From Research to Reality."*

TIPS ON TITLES Take a big plump pumpkin and lightly carve the title. Set it up before a dark backdrop, scatter a few autumn leaves around. Create a "moonlight" effect by lighting the setup with a single floodlamp shining in from an angle.

ASK FOR

Ansco

8 and 16 mm
HYPAN FILM

ECLAIR CAMERETTE

(Continued from Page 321)

containing sprocket, pressure pads, and footage indicator. The automatic film gate magazines, 100′ or 400′, can be used interchangeably, being instantly attached and locked to the main unit by simple pressure of the hand. Unlocking is obtained by simply pressing the locking knob. Loading the film gate magazines may be done in darkroom or changing bag; control of loops is possible in daylight and is not critical. Film wound either emulsion out or emulsion in can be used. It is possible to change magazines while the camera is in operation. The total weight of the Camerette with 400′ magazine and three lenses is 14 pounds.

The camera maintains its steadiness by a system of pressure pads and spring guides which keep the film traveling in a straight path past the aperture. Tests have proven it to be absolutely steady. The front aperture plate of hand polished steel is undercut except along the edges of the film. The pressure pads, which are on the magazine, are of a fibre material, with a spring suspension construction that makes scratching of film impossible. Gear drive from the motor connects with a gear in the magazine which operates the film take up. Tension is maintained from the feed spool, and the direct takeup effectively prevents any possibility of buckling.

The shutter blade, in front of which the reflex mirror is placed at an angle of 160°, has a maximum aperture of 200°. This is adjustable to 40° by means of a graduated shutter disc sliding behind the reflex mirror controlled by an exterior knob. The image is viewed directly through the taking lens by means of reflection from an unbreakable polished mirror, inclined at an angle of 45° and placed in front of the shutter and rotating with it. The unique principle has the advantages of accurate framing with no parallax, and makes it possible to follow focus visually during shooting. The viewing image is transmitted by means of a ground glass and prisms to the magnifying eyepiece. This eyepiece is fitted with a focusing adjustment, and can be set in three positions. The vertical one allows the cameraman to easily follow the action when the camera is placed on the ground position, made possible by the camera's flat base.

A specially-built small and very light weight six- to eight-volt motor also acts as a handle for the camera, and is fitted with a rheostat for speed adjustment between eight and forty frames per second, and with a switch specially designed to overcome stationary inertia. On the left side of camera is a tachometer which registers speed of the camera movement ranging from 8 to 40 f.p.s. The motor is operated by a non-spillable battery of light weight and flexible design that may be carried by the operator belted about the waist. The battery is rechargeable and will drive up to 4000 feet of film on one charge. Provided also is the alternative for using a spring motor drive or hand crank.

The turret is of the divergent type so that any lens from a 24mm. to a teleobjective can be operated without optical interference. This is the first 35mm. reflex motion picture camera allowing the use of lens of a focal length less than 30mm. It is possible to use objectives of as short a focal length as 24mm. The standard mounts are of bayonet type, fitted with grips for focusing, and lens hood with spring grips in which either the metal lens cap or filter holders can be inserted. Keneoptic lenses made in Paris, which are F.2 coated apochromats, are normally furnished with the camera, although any other lens could be fitted in the standard mounts.

A special telescopic tripod, built of cast aluminum, weighing 13 pounds, is part of the standard equipment. The tripod head is fitted with a special dovetail receiving the flat base of the Camerette, and locked into place by means of a spring bolt. The tripod head is instantly detachable from the tripod legs by a clamp, and can then be clamped to any other object, with provision also made for the attachment of an auxiliary clamp to permit the clamping of the tripod head in either horizontal or vertical position.

The utmost precision and quality control are maintained in the manufacture of the Camerette. It has been used successfully in both extremely cold and extremely hot climates. Among famous users of the Camerette are Rosselini, Jean Cocteau, and Orson Welles. More recently the Camerette has been demonstrated to heads of the various Hollywood studios where it has aroused tremendous interest among cameramen and technicians.

Cine-Craft's "Junior" Movie Studio

Los Angeles' non-professional movie makers have access to professional movie making equipment and service at Cine-Craft, nation's first "junior movie studio" for movie makers. Here may be found every facility for photographing, recording and processing 8mm. and 16mm. silent and sound films.

Cine Craft, 8764 Beverly Blvd., Los Angeles, is a unique cine center for Los Angeles' amateur movie makers. Here the cine fan may buy or rent every conceivable item of equipment and accessories for making silent or sound movies.

Suppose you wish to shoot a reel of movies of your child at the time he takes his first steps, and make it in sound. At Cine-Craft you may rent a Berndt-Bach sound camera, use their studio and lights, and make the sound film yourself at modest cost. If you are more ambitious, say wish to produce a short commercial or television film, Cine-Craft will rent you the sound camera, sell you the film, record the sound and develop and print the completed production.

Behind this unusual cine center is George Widing, once a cameraman for Thomas H. Ince. His service begins where the average camera store's leaves off. "You'd be surprised," Widing says, "how many people who buy their movie cameras at downtown stores, bring them to me for instruction on how to run them. Here we take the time to help the amateur with his problems."

Cine-Craft services the 16mm. professional motion picture makers, too. Their processing, developing and printing are in steady demand because they render a "custom" service. Widing's lab makes sensitometric tests every day. They never dump their chemicals. Instead they add to or replenish them. "This keeps the chemical activity even," says Widing. "We thus have established a 'norm' which our customers can shoot for, knowing that in so doing they will be guaranteed consistent quality in prints or reversal processing.

"Our aim here at Cine-Craft is to provide a miniature 'M-G-M' for the serious movie amateur, the semi-pro and the professional 16mm. movie makers, combining individual counsel with helpful service and a wide range of equipment for the 8mm. and 16mm. movie makers of Southern California."

"A SOUND INVESTMENT!"

Kinevox

SYNCHRONOUS MAGNETIC

FILM RECORDER

★ Tops in FIDELITY
★ Years ahead in DESIGN
★ Cuts SOUND RECORDING COSTS appreciably

$1250.00
F.O.B. Burbank, Calif.

RECORDS MAGNETICALLY ON PERFORATED 17½MM. FILM

HERE is a magnetic film recorder engineered especially for high fidelity sound for motion pictures — entertainment, industrial, educational, television — and for radio. It affords tremendous savings in sound recording costs, permits instantaneous check of sound quality and makes possible the recording of sound on locations and under conditions not possible with regular optical recording equipment.

SINGLE CASE UNIT . . . NET WEIGHT 50 LBS.
MONITORING FACILITIES: SPEAKER PLUS HEADPHONES
INSTANT PLAYBACK — INSTANT ERASE
MOTOR: SYNCHRONOUS SALIENT POLE, DYNAMICALLY BALANCED
FREQUENCY RESPONSE FROM 50 TO 10,000 CYCLES

Write, Wire, or Phone for Further Details

KINEVOX, Inc.

4000 RIVERSIDE DRIVE Phone: CHarleston 0-8271 BURBANK, CALIF.

Give your home movies that "professional" touch

COLOR MOVIE MAKING FOR EVERYBODY

A Question-and-Answer Handbook by CANFIELD COOK

COLOR MOVIE MAKING FOR EVERYBODY fills a real need for filmers . . . a full, complete and practical guidebook with hundreds of fascinating ideas for making better color movies. At all bookstores.

Answers such questions as:

- What is the minimum equipment essential to good indoor pictures?
- How should I lubricate my camera to make sure it is in proper working condition?
- How is a range finder used?
- What advantage is there to using coated lenses?
- At what angle should the camera and lights be used in mirror filming?
- How can I make splices that will be sure to hold my film together?
- How should color films be stored after exposure and before processing?

• The complete guide for beginners . . . a valuable refresher course for experienced filmers

COLOR MOVIE MAKING FOR EVERYBODY is an easy-to-understand, convenient-to-use handbook that will answer your question: "How can I make better, more professional movies?" Mr. Cook covers all the problems that beset the beginning—and even the more advanced filmer. Clearly and concisely he offers proven advice on every step in color filming from choosing equipment to editing and showing excellent films.

• Handy questions-and-answers

Written in question-and-answer form, COLOR MOVIE MAKING FOR EVERYBODY gives detailed information on hundreds of actual problems which Mr. Cook has been asked to solve in his lectures, his courses in color motion-picture photography, and by mail. He shows you how to get the most out of colors; how to avoid mistakes in lighting; how to build a movie that has continuity and form. He gives you "professional" tips on trick-shots, close-ups, titling, and making your own sound track. Special chapters discuss the ins-and-outs of equipment, lenses, handling the camera, indoor and outdoor lighting, filters, continuity, composition, projecting, etc. Also you will find valuable tables and data on lighting, width and depth of field, scene length, projection distance, and a helpful bibliography of magazine articles and books on special aspects of movie making.

EXAMINE IT FREE FOR 10 DAYS

MAIL THIS COUPON TODAY

WHITTLESEY HOUSE, McGRAW-HILL BLDG., 330 West 42nd St., N. Y. 18
Please send me Cook's COLOR MOVIE MAKING FOR EVERYBODY for examination on approval. Within 10 days I will remit $3.75, plus a few cents delivery charges, or return the book postpaid.

Name ____
Address ____
City____ Zone____ State____
Company ____
Position____ AC-9-49

☐ SAVE! If you check here and enclose payment, publishers will pay mailing costs. Return guarantee applies, of course. United States and Canada only.

LIGHT ON THE SUBJECT—OUTDOORS

(Continued from Page 328)

aback they would be caught off guard and hence too flustered to do their job. If, on the other hand, the chewing took too long, they would get fed up with hanging around for the expected steak and not be on hand when it finally did arrive. Dr. Rockwell advised consistent chewing.

And so with the film. The light intensity reaching the film must be consistent on each and every exposure to bring about the right chemical reaction. Exposure of the film, mind you—not lens diaphragm setting. The method of control is very easy. If the camera operates at a constant shutter speed, the lens diaphragm can regulate the light on an even scale. If, for slow motion or other abnormal filming, the shutter speed is changed, then a proportionate change is made in the lens diaphragm. So, to get consistently exposed pictures your problem is the simple one of letting the same amount of light reach your film on every kind of day whether it be bright or dull. Obviously, this is done by adjustment of your lens diaphragm. If the day is dull, you open it—not to let in more light but to let in the same amount of light that reached the film during the brighter filming period when the diaphragm was closed down.

This will bring consisent exposure but not necessarily consistent brightness to your films. Obviously, too, if the scene includes, let us say, bright water reflections under a full sun, these will be absent if filming is done under a leaden sky. But as the values of one are correct so will the values of the other be correct if the same amount of light has reached the film and correct exposure applies to both.

"But how," you will ask, "can I be sure that the same amount of light will reach my film? On the dull day a wide aperture will apply, and on the bright day a small aperture will apply." That is perfectly true, and you have made the greatest step in arriving at correct exposure if you associate the bigger numbers—which means small lens-diaphragm openings, or stops—with bright days, and the smaller numbers—which mean large diaphragm openings—with dull days. But within these two divisions are several stop numbers, and you want the right one. You can come very close to that right stop number without "bobbing around with an exposure meter," as one questioner puts it.

The easiest way for a beginning filmer to arrive at a standard which will assure him brilliant, consistently exposed pictures is to stick to that condition which is least variable. This condition is an unobscured sun. As the camera registers only the light reflections from the subject, these reflections will vary in intensity according to both the camera's and sun's angle to the subject. The angle that can be kept constant is achieved when the sun and camera both point toward the subject in the same direction. This means that a sun that is behind the camera when the camera is full on the subject. Let the camera or the sun be to one side or the other or behind the subject, and your light reflections will change to a lesser or greater degree.

These changes will account for changed exposures in your pictures, and even though you stick stoutly to bright-sun filming, exposure that is way over or way under will result if you also stick to the same lens-diaphragm opening when your "bright-sun" angles change. If you would like to have a formula that will assure consistently good outdoor films and your camera shutter operates at or near 1/30 second, here it is: Stick to days when the sun is unobscured by clouds, haze, or anything else, including tree branches or foliage. Aim your camera at a scene or subject floodlighted and frontlighted by this sun on the same line as your camera angle. Slight variance, as from "an over-the-shoulder sun," will add a very slight modeling effect without affecting exposure. Set your exposure at f/8 and film.

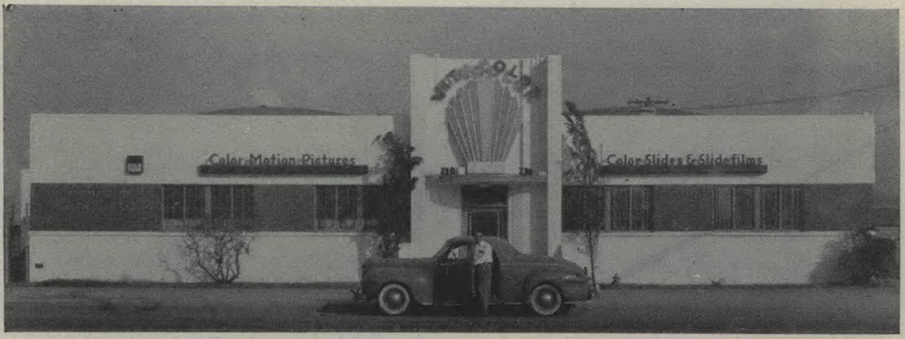
Unless your camera is operating improperly or you have not followed recommended filming hours, this will assure you of good pictures not just once but always. The check for this formula will be in the processed film.

Almost all motion-picture cameras have their inbuilt exposure guides which, if carefully followed, will bring excellent exposure results. But be sure it is a color filming guide and not a black-and-white filming guide you are using. Cameras made 12 or more years ago—before the advent of color film—give only black-and-white guidance. Too, in using either these camera guides or the ones available through the color-film manufacturers it is far better to master one "sky" condition at a time than to jump from one to another. Then you can better check your interpretation of the various conditions set forth. Best filming check, of course, is the accurate, correctly used photoelectric-cell exposure meter.

The "unobscured-sun" condition is the one which applies to more of the filming year than any other. But it will not apply—unless you doggedly determine to use it for all filming—during a great part of the time when you will wish to film. Nor should it. There will be the hazy, cloudy, murky, rainy, even

(Continued on Opposite Page)

Vitacolor Attains 26,000 Daily Capacity Footage



Vitacolor film laboratory in Burbank, California

Vitacolor Laboratories announce a present daily capacity of 216,000 feet of color film to be increased to 500,000 feet on the completion of additional processing machines now in construction.

Vitacolor is printed from three-color separation negatives, controlling contrast. James J. Bradford, owner of Vitacolor, spent 10 years in research on the three-color process. Specialized color printing has enabled him to carry on independent of outside financial assistance.

Among the services of Vitacolor are the production of color release prints from b&w color separation negatives, permitting the original to be untouched, and any amount of footage for slidefilm producers without additional wear to color master.

snowy days when you will want to film and can. But when you get into these conditions the standard charts based on sky readings cannot be reliable, for your interpretation must match those of the guide maker for accurate results. For these conditions it is better to use the exposure meter consistently rather than to estimate one time and read the meter the next.

And under each sky condition come the varying conditions of shade. The shadows may be "soft" or "strong," and both have their light-intensity subdivisions. The camera manufacturers may set these forth with what appear to be simplified recommendations and indicate that using the recommendations will assure good color films. But I say to you again—having no ulterior motive in making color filming appear any simpler than it actually is and holding no stock in either camera or exposure-meter companies—get an exposure meter if you wish to explore variable light conditions.

Light on your subject can be of many types, but only light intensity as reflected to the camera can regulate exposure. It has been previously stated that an incorrect light-source color has a deleterious effect. Whatever this color, the same exposure variables still apply. While the eyes may not be able to ferret out color changes as accurately as the camera lens, the conditions which bring about light-source changes are well known, and many can be corrected.

With every package of color film comes the recommendation that outdoor filming be confined within those daylight hours when the sun's color most closely approximates that for which the film is balanced. Films taken too close to sunrise or sunset are influenced by the stronger red-orange rays prevalent at those times. I believe this caution has kept filmers from some most effective shots.

THE DANCING SHOES

(Continued from Page 319)

"it was just a matter of routine matte printing."

Although "routine" to Ries, the technique of travelling matte printing is still something of a mystery even to many professional movie makers, and would require more space than is available here to explain it fully. But roughly, it consists of superimposing a figure (or figures) in a scene when printing the film, rather than by double exposure, as in early days of cinema trickery. The travelling matte, which is made photographically, consists of a strip of clear film,

"PROFESSIONAL JUNIOR"
CAMERA EQUIPMENT

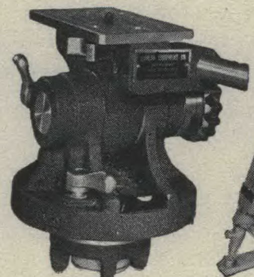
Interchangeable - Removable Head Tripods

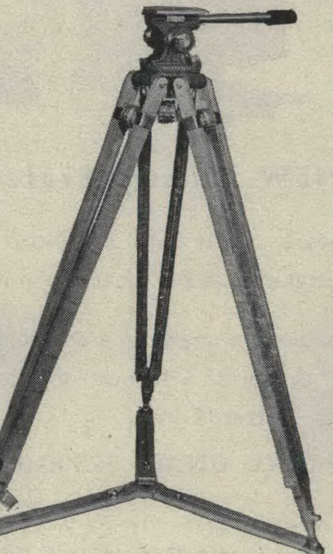
FRICTION TYPE

Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400′ magazine; and all 16mm. hand-held cameras. Head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.

GEAR DRIVE

The head, made of Dow Metal magnesium, weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal cranks control pan and tilt action from both sides. Worm-driven gears are Gov't spec. bronze.

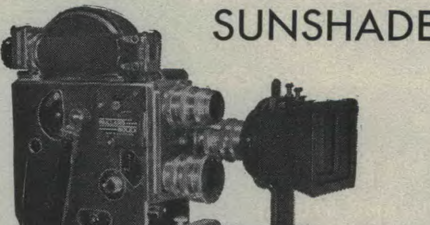




STANDARD TRIPOD BASE AND COLLAPSIBLE ADJUSTABLE METAL TRIANGLE

BLIMP for 16mm. E. K. CINE SPECIAL

This Blimp constructed of Dow Metal magnesium, is thoroughly insulated to afford absolute silent operation. Exclusive features: Follow focus mechanism permits change of lens focus while camera is operating in blimp. Blimp takes synchronous motor drive which couples to camera. A dovetail bracket is provided to mount an erect image viewfinder.

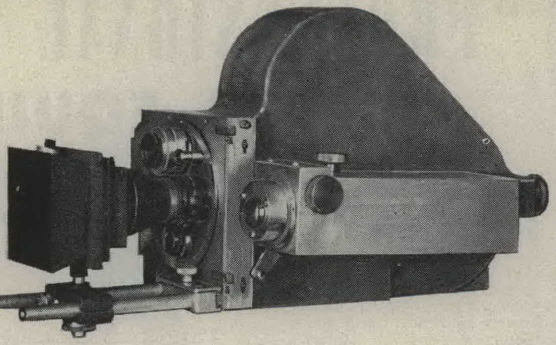


SUNSHADE & FILTER HOLDER COMBINATION

For use with Bolex and Cine Special 16mm. cameras. Holds two 2″ sq. glass filters and a round 2½″ Pola Screen with handle which can be rotated for polarization. Covers all lenses from 15mm. to 6″ telephoto and eliminates need of various filters. Precision made of the finest materials. Compact, simple to assemble and dismount. May be permanently affixed to camera or quickly detached.

— ALSO AVAILABLE —
BABY TRIPODS
3 WHEEL PORTABLE DOLLYS
CHANGING BAGS
"HI-HATS"
Send for our catalog. It describes all our products completely.

FRANK C. ZUCKER
CAMERA EQUIPMENT CO.
1600 BROADWAY
NEW YORK CITY



The NORD

A completely NEW 16mm. Professional Camera

The many new features built into the Nord camera are not just talking points. They make possible sharper and better pictures.

To the man who is always seeking practical ways to improve his work we would like to send, without obligation, an informative new booklet "Making Better Films."

PRICED UNDER $2500.00

Invitation showings of the new Nord camera for the profession will be arranged soon in major cities.

THE NORD COMPANY

254 FIRST AVENUE NORTH MINNEAPOLIS 1, MINNESOTA

C. ROSS

FOR

LIGHTING EQUIPMENT

Inkie and Arc Lamps including Required Accessories
Generators—Cables—Boards—Boxes

•

Raby Camera Crane—Dollies—Blimps—Geared Heads

•

GRIP EQUIPMENT

FOR LOCATION AND STUDIO
Parallels—Steps—Platform Ladders
Century Stands—Reflectors—Flags—Scrims

•

SOLE EASTERN MOLE-RICHARDSON CO. DISTRIBUTOR
RENTALS • SALES • SERVICE

•

CHARLES ROSS, Inc.
333 WEST 52nd STREET
NEW YORK 19, N.Y. Circle 6-5470-1

with the area corresponding to that of the figure to be printed in, fully opaque. This, when combined with the negative, leaves unexposed on each frame of the film the area that will be occupied by the figure to be superimposed in a subsequent printing step.

In the case of the dancing shoes a matte was made to blank out the area on each frame representing the shoes. This allowed the shoes subsequently to be printed in, a step which, because of carefully controlled exposure and printing light, made the shoes appear as though they were photographed simultaneously with Fred Astair.

"The 'dancing shoes' sequence," said Ries, "required two months to conceive and execute. We shot all the action on stage in 3 days. The rest of the time was spent in making the mattes, doing the animation work, and finally the printing by Bill Ulm, my assistant."

Irving Ries has been with M-G-M twenty-five years and is one of the several employees who deservedly share in that studio's silver anniversary by virtue of seniority. Ries, along with such old Metroites as John Arnold, A.S.C., John Seitz, A.S.C., and others, were virtually part and parcel of Metro when that studio was merged 25 years ago with two others to form the present Metro-Goldwyn-Mayer. Shortly afterward he took charge of M-G-M's optical printing department.

Recently Ries and his staff perfected an improved method for making mattes photographically for optical printing—a method that affords precision and speed of production heretofore unobtainable by any other system. It is likely the new method will be nominated for an Academy Award in the Technical Division, come "Oscar" time next March.

In the meantime, Irving Ries—the quiet, unassuming effects magician at Metro—deservedly is taking bows for the dancing shoes sequence, considered the high spot in "Barkleys Of Broadway," and which, to hear Ries tell it, was just another routine job for his optical printing department.

SOURCE LIGHTING

(Continued from Page 324)

one entrusted with actually staging the action of the film, his artistic viewpoint should be of prime concern to the cameraman.

Having decided the predominant mood and lighting key of each sequence, the cameraman is now charged with the responsibility of conveying these ideas to film. Here again the rule, "Follow the natural source," comes into play. The establishment of the basic source is usually quite simple. For a daylight exterior sequence, the source would naturally be the sun. For a similar situation staged at night, the source would be the moon. For a daylight interior, the source would be the sun's rays reflected through windows and doors. For a night interior, the basic source could be a lamp, chandelier, open fireplace, etc. These various source lights differ from one another in two respects: *quality* and *direction.*

The quality of harsh sunlight, for example, is quite different from the softer quality of moonlight. Similarly, the harsh quality of light from an overhead bulb would differ greatly from the softer glow of an open fire. The direction of light is also important. At noon, for example, the light of the sun shines from directly overhead, casting deep and angular shadows on faces. At sundown, the same natural source emits a quite different quality of light. Now the illumination is flat and the modeling of facial features under such light is much more subtle. The prime rule, then, is first to determine the direction and quality of the light source indicated in the script, and to select and place lighting units accordingly.

Let us say that, as a general rule, the key light should emanate from the indicated natural source. It is therefore the brightest element of the scene, and the closer the actors approach the source, the lighter they will become. The key light should be placed as close as possible to the particular element emitting the source light. Therefore, if the indicated source is a table lamp, the spotlight simulating that source should be placed as close as possible to the lamp itself, but out of camera range. Having established the source and placed the key light accordingly, it is essential that the relationship of the light source to the actors and the setting be kept consistent throughout the sequence. A certain amount of "cheating" is permissible and even necessary in some cases, but it should never become obvious.

Except in very dramatic sequences, the key light used alone will produce an unpleasantly harsh effect. Some fill light is clearly required. It is presumed that the fill light is either a diffused reflection of the source light, or that it is produced by lesser elements of illumination within the scene. In either case, the fill light must be kept subordinated in intensity to the key light. Thus, if the key light consists of a Senior spotlight, a suitable fill light might be achieved through the use of a Double Broad or a No. 4 photoflood. A softer fill light is produced through the use of diffusion silks or gauze in front of the lighting units.

Quite often it becomes necessary to

Manufactured and Distributed Exclusively by The Houston Corporation.

Designed and adopted by the major producing member companies of the Motion Picture Research Council, Inc., these new camera cranes are now standard equipment in all leading studios. Their advanced features make possible many new and dramatic camera techniques. The Cranes provide a continuously variable lens height of from 2 to 10 feet, 340° panning on camera axis and 360° on crane axis, plus many other radically new operating and safety features. Three models. Write today for illustrated brochure.

Houston

Automatic Film Developers - Printers - Studio & Laboratory Equipment

THE HOUSTON CORPORATION, W. LOS ANGELES 25, CALIFORNIA
Tel: BRadshaw 24331 **Cable HOUSCORP**

TRANSMISSION "T" Stop Calibration

DESIGNING and MANUFACTURING of Specialized lens mountings and equipment for 16mm & 35mm cameras

Animation Equipment

MOTORS for Cine Special, Maurer and Bolex Cameras

LENS COATING

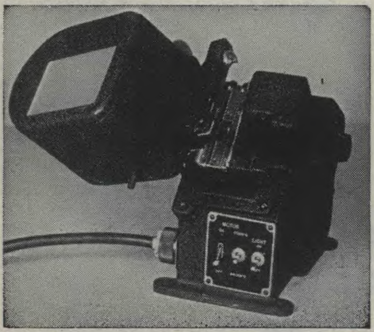
John Clemens — Erwin Harwood

NATIONAL CINE EQUIPMENT INC.
20 WEST 22nd ST., NEW YORK 10, N.Y.

RENTALS — SALES — SERVICE
Eyemo, Mitchell, Bell & Howell, Wall, Cine Special Cameras

Bausch & Lomb "Baltar" lenses and others for Motion Picture Cameras

QUALITY
8 & 16 MM
REVERSAL
PROCESSING
Open SUNDAY & DAILY Noon 'til Nine at NITE!
EASTMAN BLUE BASE
AND DUPONT FILMS
Call CR 6-0328
Cine-Craft
8764 BEVERLY BOULEVARD
LOS ANGELES 36, CALIF.



NEW...16 mm. Moviola
NOW—a professional Moviola for 16mm. production. Made by makers of the 35mm. Moviola. Runs at controlled speed, forward and reverse. Brilliant 2" x 2¾" picture on screen. Write for literature and prices.
MOVIOLA MANUFACTURING CO.
1451 Gordon St. Hollywood 28, Calif.

NOW AVAILABLE!
- 35mm. Variable Area Film Recording Equipment.
- 35mm. Re-recorders.
- Interlock Systems.
- Studio Mixer Consoles.
- Portable Converters.
- 35 mm. Double Film Magazines and Loop Attachments.

QUALITY FILM RECORDING EQUIPMENT SINCE 1930

BLUE SEAL SOUND DEVICES
536 E. 85th St., New York 28, N.Y.
Cable Address: SOUNDFILM

A. S. C.
CINEMATOGRAPHIC ANNUAL
Printed and published in 1930, a limited number of the original editions of this valuable technical book are available to cinematographers, movie amateurs, schools and public libraries.
No other book ever written contains so much data supplied by the professionals of Hollywood's motion picture studios.
$3.50 Postpaid
AMERICAN CINEMATOGRAPHER
1782 N. Orange Dr., Hollywood 28, Calif.

modify a natural source of light to more closely fit the required mood of a sequence. For example, a tragic sequence played in noon sunlight is dramatically incongruous, and somewhat weak. The same action played in the long shadows of sunset or by moonlight would be much more dramatic. Where a situation of this sort arises, it is usually possible, through conferences with the director, to shift the time element and thus modify the need accordingly.

The term "practical" refers to lighting units (such as lamps, chandeliers, etc.) which are actually shown within the scene as indicated light sources. Clearly, the practical should be brighter than anything it supposedly illuminates. Thus the whole lighting balance of the scene is indicated by the light level of the indicated source. Practical lamps are usually fitted either with photofloods or with ordinary bulbs that can be boosted by means of small transformers.

When the full light from a source falls directly upon a subject without encountering any intermediate obstacle, it illuminates the subject as undiluted raw light. Both sunlight and artificial light can come under this classification. While raw light is dramatic and quite appropriate to certain themes, it can also be harshly unkind to the subject. Therefore, in most cases it is advisable to tone down the light by means of a scrim (in the case of sunlight) or a diffuser (in the case of artificial light). Raw light falling upon a background is usually somewhat undramatic, especially when large bare wall surfaces are involved. It is better to "break up" such surfaces with shadow patterns appropriate to the mood of the scene. Such patterns can be cut either from opaque black material or from wire screen where a less dense shadow is preferred. The pattern itself may simulate tree branches, window panes, iron grillwork, or any less definite pattern. The distance from the background light source to the pattern will govern the relative sharpness of the projected image.

Quite often in order to simulate realistically a main source of light, it is necessary to reflect light onto the set. For example: on an early-morning interior set, the highest key of light would be the landscape background shown through the windows. Most of the light illuminating the room would naturally be the reflection of the sunlight itself. In order to simulate this peculiar type of diffused illumination, one would reflect light onto the set by means of a large white cloth or dull silver reflectors.

Simulating daylight on an "exterior" set shot indoors has become standardized technique in the studios, but for the less professional cameraman it poses certain problems. In planning such lighting, it is well to remember that the sun is a single bright light source, and thus a lamp of sufficient brilliance (preferably an arc) should be used as the key light. In such sequences the key light should also illuminate the background or appear to do so. Some fill light may be used, but it should be held to a fairly high contrast ratio. Back lights and kicker lights may be used but should be kept subtle.

In lighting a moonlight scene, a single bright source light is also indicated, but the level is lower and the background is kept as dark as possible. Candle-light and lamp-light present peculiar problems of simulation. Such light is diffused, and should appear to be coming from the direction and level of the candle or lamp itself. When shooting a group seated around such a source, for example, the figures would be illuminated by individual spots shooting across the table at the figures facing the camera. Foreground figures with their backs to the camera should be allowed to fall more or less into silhouette.

The light of a match or cigarette can be simulated by taping a small projection-type bulb onto the palm of the actor's hand, fading in this light by means of a rheostat to coincide with the action. Camp-fires and fireplaces produce their own peculiar type of source lighting. There are two acceptable methods of duplicating the flicker of raw firelight. One is by moving a small tree branch irregularly in front of the source, and the other is by actually using flames or smoke in front of the key light. In most cases, such an effect is more realistic if the key light is slightly diffused.

Simulating a light source need not be a complicated task for any cinematographer. It is necessary only to analyze the indicated source of light in terms of *quality* and *direction*. Select lighting units that will most nearly simulate the quality of the required source, and then place them where they can duplicate the direction of the natural source. Unmotivated light sources are a sure sign of the amateur. To insure a professional touch in your filming, "Follow the natural light source."

TEACHING SPEECH

(Continued from Page 330)

they are nevertheless easy to solve. However, processing control was quite a different matter. Investigation indicated that quality control in most reversal laboratories—while entirely adequate for ordinary work—left much to be desired on a composite single-system film with area track. There was a wide variation in track density, high-frequency loss, and distortion between two parts of a test roll which were sent to the same laboratory in two separate shipments. Actually, the 4500 cycle loss varied as much as 14 db due directly to processing. When the facts were presented to the laboratory man, his reaction ran something like this: "You oughta know better than try to get sound on reversal; shoot it double system!"

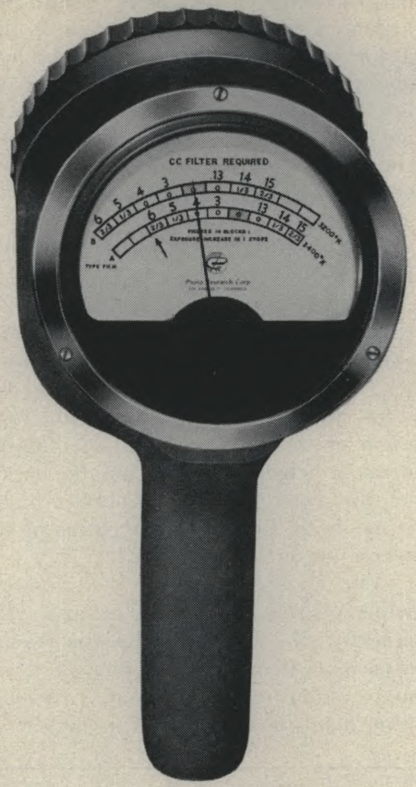
At the conclusion of the 1945-6 school year, the difficulties outlined above had been thoroughly digested, and plans for the next year were formulated on the basis of faster film with an absolute minimum of light, closer processing control, as practical, and an effort toward smoother classroom procedures.

The University was now in the midst of an enormous postwar expansion program. The film project was moved into a new prefab consisting of two classrooms separated by a slightly elevated control room for technical operations. The number of students was increased but each student was filmed only twice during the semester. Instructors were asked to treat the project without special observance so far as possible. Students were given a questionnaire on which to record their immediate reactions on the day when the films were first shown in class.

The third year, the lighting was further reduced in the area where the speaker stood. The general illumination level of the classroom was raised to a higher level so that the student felt less "in the spotlight." A synchronous timer, coupled with the camera motor, was placed on the wall of the classroom so that the amount of film in the camera was visible at all times. The cardioid microphone which we had felt was the best for the purpose, was discarded in favor of the miniature condenser type. This resulted in a higher average recording level, less change in quality as the speaker moved about, and a better general quality.

A special AC operated amplifier was built around a standard backward-acting limiter. A special circuit in the galvanometer line is adjusted to trigger an audible indicator in the earphone circuit when the level reaches 100%. This makes it possible for the camera operator to ride gain without watching meters and thus eliminates the sound man. The microphone is not on a boom, but it can be raised or lowered from the operator's position by a simple rope and pulley arrangement.

Pictures were now made at F/1.4 on DuPont type 304 stock. Careful control



Spectra

DIRECT-READING COLOR TEMPERATURE METER

Studio Model

To save time in computation, we offer the professional photographer a studio model Spectra.

Readings of the light source indicate the necessary correction and show the CC filter required and give the filter factor.

For use with both 3200° K or 3400° K artificial light color films.

Price $225

Complete with Spectrosphere, carrying case and handstrap

Order direct from

PHOTO RESEARCH CORPORATION

127-129 WEST ALAMEDA AVE. • BURBANK, CALIFORNIA

A STAR IS BORN!!

We proudly present . . .

VITACOLOR

The Three Color Process that is destined to play a leading role in the motion picture Color Field. VITACOLOR gives the producer . . . Release Prints with more BRILLIANT AND SATURATED COLOR, SHARPER DEFINITION, FINER GRAIN, SILVER TRACK—**and at Low Cost!**

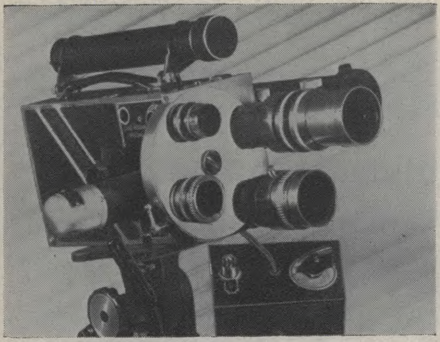
- √ **35mm. VITACOLOR Theatre Release Prints from all 35mm. and 16mm. Color Originals.**
- √ **35mm. VITACOLOR Theatre Release Prints from 35mm. 3-Color Successive Frame Separation Negatives.**
- √ **35mm. 3-Color Separation Negatives from all 35mm. and 16mm. Color Originals.**
- √ **Complete Printing and Processing Service for the new DU PONT Color Positive.**
- √ **Complete Ansco Color Printing and Processing Service for Motion Pictures, Slide Films, and Slides.**
- √ **All the highly specialized Contact and Optical Printing equipment used in the VITACOLOR Process is available for use on work from our Ansco Color and Du Pont Color Customers.**
- √ **VITACOLOR is the largest and best equipped 35mm. Color Film Processing Laboratory in the United States devoted to Color Motion Pictures, Color Slidefilms, and Color Slides. DAILY CAPACITY, 216,000 feet.**
- √ **FREE Testing and Filter Pack Data for Ansco Color Film.**
- √ **FREE Pick-up and Delivery Service in the Los Angeles area.**

Please write for quotation.

VITACOLOR

"Brings the Rainbow to the Screen"

230 West Olive Ave., Burbank, Calif., Phone CHarleston 0-8136



Motor Drive for Bolex and Cine-Special Cameras

- Instantly attachable to camera, no alterations necessary.
- Choice of three speeds by using click switch.
- Lightweight, case, battery and motor less than 5 pounds.
- Shearing pin device protects camera.
- Operates on battery or doorbell transformer at speeds 16, 24 & 32 f.p.s.
- Motor weighs 8 ounces, is ball-bearing, governor-controlled.
- Motor, carrying case, battery and cord complete, $57.50 f.o.b.
  (State whether Bolex has frame counter, if built-in or accessory.)

SOUND MODEL, 24 f.p.s. only, data on motor same as above, unconditionally guaranteed for sound use, $67.80 f.o.b.

See your Dealer or Write
MILES ENGINEERING
BOX 5872, KANSAS CITY 2, MISSOURI

AKELEY CAMERA AND INSTRUMENT CORP.

175 Varick Street
New York 14, New York
— Established 1914 —

Designers and manufacturers of silent and sound motion picture cameras with 225° shutter opening, (288° shutter opening for television use), gyro tripods and precision instruments. Complete engineering and machine shop facilities for experimental work, model and production runs.

INQUIRIES INVITED

BLACK AND WHITE • KODACHROME

ENLARGED **8 to 16** REDUCED **16 to 8**
DUPLICATES

GEO. W. COLBURN LABORATORY, Inc.
164 N. Wacker Dr., Dept. A, Chicago 6, Ill.

UHLER
CUSTOM BUILT Cine MACHINERY DETROIT USA

MOTION PICTURE
16MM PRINTERS 8MM
CONTINUOUS-STEP-REDUCTION
SEND FOR DESCRIPTIVE LITERATURE
UHLER *Cine Machine Co.*
16519 WASHBURN AVE. DETROIT 21, MICH

of processing yielded better sound than had been previously obtained on a finer-grain material. The best tracks were obtained with track densities somewhat lower than normal for reversal processing, namely 1.2 to 1.4. With careful control, a fairly consistent recording characteristic was maintained out to 4500 cycles.

By this time the element of quantity became of a magnitude to cause special concern. In the spring semester 1949, for example, the schedule called for filming over three hundred speeches running 2¾ minutes each, in less than four days. This called for almost continuous operation of the camera, hour after hour, a demand which probably has no parallel in the entire field of motion picture work, with the possible exception of teletranscription.

The present camera is a mongrel which incorporates a standard area galvanometer, the quiet and durable Auricon film movement, a heavy-duty hysteresis motor, and standard 35mm. 1000-foot film magazines modified to handle the narrower film. Ten students are filmed on a 1000-foot roll. Where a section includes no more than twenty students, it is possible to film the entire class in two uninterrupted sessions. Under these circumstances, classroom procedures are very close to normal, and cases of "mike fright" and "camera shyness" are practically nonexistent.

Presently, then, we are engaged in the quantity recording of student speeches on 16mm. single-system film at a very minimum cost. The student is not asked to buy a textbook for the semester in which he is filmed; instead, he pays $2.50 for his 100 foot sound film, and the balance of the cost is made up out of tuitions. The student takes his film home at the end of the year to show the folks.

Admittedly, the financial phases of the Syracuse film experiment may be open to some question and perhaps improvement. But after four years of experiment, we have every reason to believe that we have a terrific new tool for teaching "Speech 3B, Elements of Public Speaking."

TYRO IN TECHNICOLOR

(Continued from Page 323)

were of makeup and costumes, and these were required by the production office.

Ruttenberg had made up his mind that he was going to make simplicity the keynote of his photography on this initial color assignment. "Every man has his own particular taste for color," he said, "and with the cinematographer his color photography reflects his individual taste for colors, harmony, etc." Most of the techniques for modern black and white photography can be applied to color photography, he continued, adding that it is important to keep in mind when shooting any picture, be it black and white or color, that the dominant aim of the cameraman is to carry out the mood of the action. If the picture is a comedy, then it should be photographed in a gay mood; if it's dramatic, then a somber mood keys the entire photographic plan. These facts were the foundation of Ruttenberg's approach to the photography of *Forsyte Woman.*

Despite Ruttenberg's lack of experience with Technicolor, Miss Garson insisted that he do the photography on this picture, which was to be her first experience with Technicolor, too. He followed virtually the same photographic practices he had used on her preceding eight pictures—the same careful diffusion, balancing of light, etc. Of course, he had to increase the light volume for Technicolor. "It was a little difficult at first," he reflected, "having done black and white pictures for so many years, then suddenly undertaking a new medium that requires about 20 percent more light."

"When I first started photographing Miss Garson on the Minniver picture," he continued, "it took a little while to get the right lighting angles for her, as it would any cameraman. Like most screen players, Miss Garson looks her best on the screen when given careful, individual lighting. When the same cameraman works with a star, picture after picture, as I have done with Miss Garson, he naturally improves upon the lighting and photographic technique established for that particular star with each successive picture."

Now, having done nine pictures in a row with Miss Garson, she has come to depend upon Joe Ruttenberg to do the right thing by her photographically. This is a big help to her. She doesn't have to worry how she will look on the screen and thus may devote her entire attention to her acting, resulting in the standout performances for which she has become famous.

In *Forsyte Woman,* Ruttenberg encountered probably his most challenging problem in his many years as a director of photography. This was the sequence which called for photographing sustained action as players ascended a large stair-case and then traversed a long balcony next to the landing. The Technicolor camera was mounted on M-G-M's giant camera crane. Then the action was carefully and frequently rehearsed while Ruttenberg and his assistants charted the course for his camera and the traveling crane on which it was mounted.

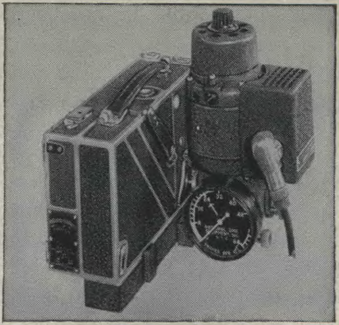
The scheme that finally evolved called for the camera to start at a low position at foot of the stair, picking up the players at this point, then follow them at close range as they ascended and walked half way around the U-shaped balcony. Getting the crane action smooth and precise was only half the problem. Lighting was the other, for Ruttenberg, a stickler for naturalness in lighting, insisted that the players—during the entire ascent of the stair and walk around the balcony—appear to be lit by natural source light. Gobos, gauzes, silks and every conceivable lighting adjunct was called into play to give the quality of lighting he desired. On the front of his camera, just above the sunshade, he mounted a "Junior" spot to furnish front fill light. The resulting scene, above all others in the picture, easily demonstrates how successful has been cinematographer Ruttenberg's transition from black and white to Technicolor photography.

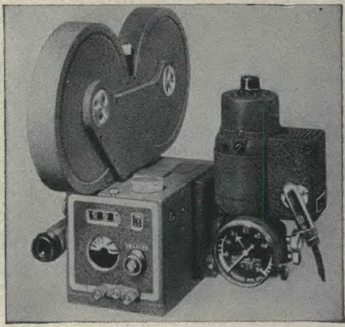
Another sequence, easily a high point in the picture, is the series of scenes in which important action takes place in a fog shrouded street. Fog photography is an old specialty of Ruttenberg's, yet he confesses he was a little apprehensive at first in lighting fog scenes for Technicolor.

"You can't light fog scenes with top lighting," he said. "So when I reached this point in the *Forsyte* script, I had no idea how fog would photograph in Technicolor. The first day I didn't use any color in the fog scenes at all. The result was decidedly gray and lifeless; so the next day we put a little warmth into the lighting and got a very beautiful effect."

Ruttenberg never used a fog filter to gain or even augment fog effects for *Forsyte Woman*. "You get no depth in the fog effect when a filter is used," he said. He pointed out how, when artificial but realistic fog was used on the set, more realism resulted. In his fog scenes for this picture, figures walking in and out of scenes or toward the camera change in appearance as the density of the fog increases or decreases with the distance between figures and the camera. In the picture we also noticed how Ruttenberg had injected a silhouette of some dark figure or object prominently in each fog scene as a strong compositional element.

Like horseplayers with their form charts, most cinematographers have their

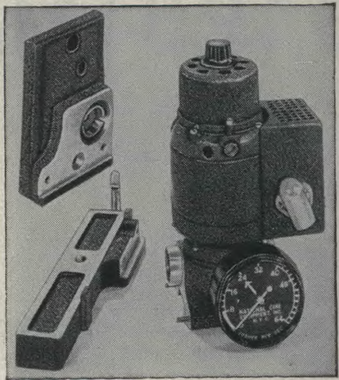




VARIABLE SPEED MOTOR
with TACHOMETER
for
CINE SPECIAL CAMERA
AND MAURER CAMERA

- 115 V. Universal Motor — AC-DC
- Variable Speed 8-50 Frames
- Separate Base for Cine Special
- Adapter for Maurer Camera

Interchangeable Motors:
12 Volt DC variable Speed 8-50 Frames.
115 Volt AC 60 Cycles, Synchronous Motor Single Phase.
220 Volt AC 60 Cycle, 3 Phase, Synchronous Motor.



Animation Motors for Cine Special. Maurer and Mitchell Cameras. Motors for Bolex and Filmo. Cameras. Time Lapse Equipment.

National Cine Equipment, Inc.
20 WEST 22nd St.
NEW YORK 10, N.Y.

WHY are advertisers getting better results in the **AMERICAN CINEMATOGRAPHER?** Because: (1) A. C. has **QUALITY** readership—readers are buyers, or recommend the buying of equipment and materials for making theatrical, educational, business, television or amateur motion pictures. (2) Because A. C. has widest and fastest growing **FOREIGN** circulation! Write for rate card. **AMERICAN CINEMATOGRAPHER, 1782 No. Orange Dr., Hollywood 28, Calif.**

The MART MESSAGE

Better than ever
THE NEW HALLEN RECORDER

For perfect piano recording. An accomplishment in sound engineering featuring a two position mixer and dialogue equalizer. Synchronous for 16 and 35mm. cameras, 30 to 10,000 cycles frequency response. Immediate playback. Write for details or come in for a demonstration. Must be seen and heard to be fully appreciated. Eastern Distributors.

COLORTRAN LIGHTS

High intensity on low amperage. Approximately 16,000 watts on a 40 amp fuse. Color corrected Kelvin temperature. Large selection of units to meet all photographic requirements. Used by major film studios and illustrators.

SEND FOR MART MESSAGE

Let The Camera Mart Help You with Your Fall Production Needs

CAMART MIKE BOOM, completely portable lightweight and durable, 13 foot boom extension arm, handle for completely rotating mike, folds up to fit in the back of your car. $261.85

CAMART TRIPOD, with narrow head for Cine-special or flat head for other type cameras. Sturdy construction.........$110.00

CAMART SPECIAL EFFECTS UNITS, can be attached to any camera, four revolving images and three different image montage. Create unusual effects for television as well as regular features. With double arm.........$75.00

PORTABLE GENERATORS, 2500 or 5000 watt capacity, ideal for outdoor electrical requirements, constant voltage, completely weatherproof. Write for further details.

COMPLETE LINE MICRO EDITING EQUIPMENT
SEND FOR RENTAL LIST IN N.Y. AREA

BUY - SELL - TRADE EQUIPMENT

THE CAMERA • MART, INC.
70 WEST 45TH STREET
NEW YORK 19, N. Y.
WORLD-WIDE SERVICE
CABLE ADDRESS: CAMERAMART

AT LAST! THE LENS you have been waiting for is now available for use in the Motion Picture and Television Industries.

●

GARUTSO

BALANCED LENSES

●

E. GOULDEN, Inc.

Exclusive Agent

5746 Sunset Blvd. ● Hollywood 28, Calif.
Telephone HO. 9-7381

RUBY CAMERA EXCHANGE

Rents . . Sells . . Exchanges

●

Everything You Need for the

PRODUCTION & PROJECTION

of Motion Pictures provided
by a Veteran Organization
of Specialists

35 mm. . . . . 16 mm.
Television

IN BUSINESS SINCE 1910

729 Seventh Ave., New York City
Cable Address: RUBYCAM

DIRECT 16MM SOUND
***with* MAURER RECORDING SYSTEM**

For the Producer of 16mm. Business, Educational and Religious Films.

- Edge Numbered Work Prints
- Sound Recording
- Duplicate Negatives
- Synchronized Studio Photography
- Release Prints—Color and B&W

GEO. W. COLBURN LABORATORY, Inc.
164 N. Wacker Dr., Dept. A . Chicago 6, Ill.

own peculiar methods or gadgets which aid them in arriving at the right answers for perfect photography. Joe Ruttenberg's ever-present miniature viewfinder is his invaluable aid in selecting right camera setups. He uses a viewing glass consistently in checking composition and light values in a scene. The rest comes from a noggin crammed full of photographic experiences that began when Joe forsook a copyboy job on the old *Boston American* to become a newspaper photographer. For many years thereafter his press photography graced the pages of Boston's leading dailies.

A few years later he got the idea to start a local motion picture newsreel. He knew nothing whatever about movie cameras, but he got hold of every book on the subject he could lay hands on; ate, slept and dreamed motion picture photography, then one day bought himself an old square-box motion picture camera. Together with a friend he built a small laboratory in his home where he could develop and print his newsreel films. Thus he was able to shoot newsreel footage, develop and print it and have it in the hands of the theatre manager on short notice. He had made a deal to supply Boston's leading cinema with one complete newsreel a week. Sometime later, he gave up this business to go into commercial and portrait photography. "It paid better than newsreel photography," he said, "and at the same time it prepared me with the knowledge of lighting that was to prove so valuable to me later in photographing feature motion pictures."

In due time, Ruttenberg came to Hollywood on a visit and was induced to take a cameraman's job at Warner Brothers Studios. This led to other assignments in Hollywood and ultimately to M-G-M where he has been one of that studio's ace directors of photography for the past fourteen years.

Recently he demonstrated his unusual versatility by coming off the *Forsyte Woman* picture and undertaking the photography of *Side Street,* a cops and robbers thriller, most spectacular scenes for which he filmed from a blimp cruising over New York City. Perched behind his camera mounted on a stout plank extending some distance out the door of the blimp's gondola, Ruttenberg trained his lens on the chase action staged in the canyon-like streets immediately below.

Attending an informal party one evening, after a day of shooting from the blimp, Ruttenberg was buttonholed by a guest unaware of his mission in New York. "Joe," he exclaimed, "I looked out of my office window this afternoon, and there was some crazy soandso hanging out the door of a blimp shooting movies!"

"Yeah," said Joe with a sly smile, "What some guys won't do to make a buck."

THE GARUTZO LENS

(Continued from Page 320)

shots, Glass shots, Miniature shots (both foreground and background) and panning shots that are unsuccessful with conventional lenses due to their distortion, will not only be made successfully with Garutzo balanced wide angle lenses but at lower light levels than at present.

4. Mirror shots with both the principal and the reflection in perfect focus are now possible.

5. Many instances in which it is important to convey the emotions of two or more widely separated principals in simultaneously critical focus can now be made with the Garutzo lenses, obviating the necessity to cut from close-up to close-up. This will enhance the dramatic value of the scene and automatically save production time and expense.

6. Uniform set-lighting will greatly simplify rearrangement of lights when moving from one set-up to another, or in switching from wide to narrow angle lenses, with consequent economies.

7. In the field of background projection, the Garutzo balanced lenses will open unprecedented opportunities. Uniform density over the entire viewing field together with the focal depth accompanying wide apertures will permit full use of the illumination of the screen; it will allow action to be staged much farther away from the screen adding a latitude of action unknown at the present time; lack of distortion at wide apertures will permit use of wider angle lenses in projection shots than now possible.

8. In trick shots, particularly where several planes of glass are used, the usable wide apertures of Garutzo balanced lenses will permit light levels of low enough heat value that the breakage of glass planes due to high temperatures will be negated.

9. A point of tremendous importance to the theatre-going public is the reduction of eye-strain in viewing a Garutzo-filmed picture on the motion picture screen. Viewed from critical side — or front — angles, the reduction in foreshortening and distortion is remarkably

noticeable and the lowered strain on the eyes is immediately apparent.

A commercial set of Garutzo balanced lenses consists of 25, 30, 35, 40, 50, 75 and 100 millimeter focal length lenses. E. Goulden, Inc., 5746 Sunset Blvd., Hollywood, has exclusive world rights for Garutzo lenses for the motion picture and television industries and have announced they are presently making them available on lease to motion picture producers. Among them, Lippert Productions, Inc., have been consistent users, having employed the lenses on such recent productions as "Deputy Marshal," photographed by Carl Berger, and "Apache Chief" and "Tough Assignment," both filmed by Benjamin Kline, A.S.C. Recently a reel of tests photographed by several studio cameramen using the Garutzo lenses were screened for members of the American Society of Cinematographers. The reel demonstrated several scenes photographed both indoors and out, first with the Garutzo balanced lens, then with an unmodified lens.

Soon to be announced is the application of the Garutzo modification to television camera lenses and to 16mm. camera lenses for commercial film producers.

THE AMERICAN CINEMATOGRAPHER AWARD

(Continued from Page 326)

film, and one 8mm. and one 16mm. nonmember-made film. These films may be in black and white or color, with or without sound. They must be entirely amateur made. Any sound accompaniment must be the product of the filmer's own efforts.

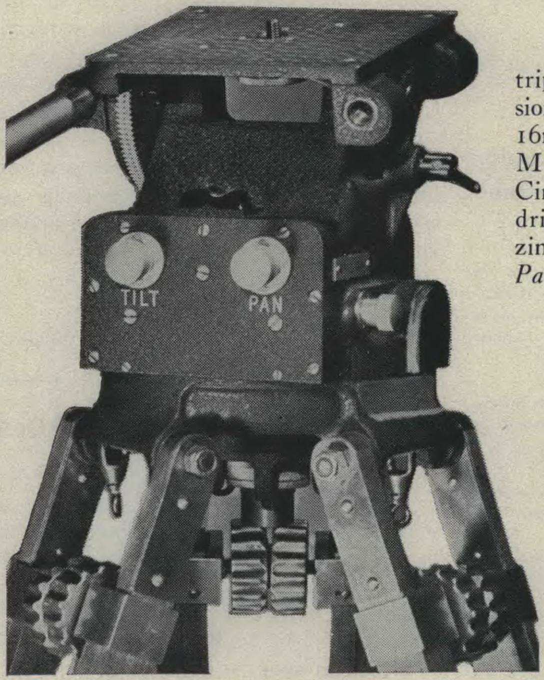
The competition affords the amateur the first real opportunity to show his work to Hollywood's professional cameramen. The panel of judges, to be announced next month, have been selected from the membership of the American Society of Cinematographers, all leading cameramen in the Hollywood motion picture studios. The films will be screened at the ASC's clubhouse.

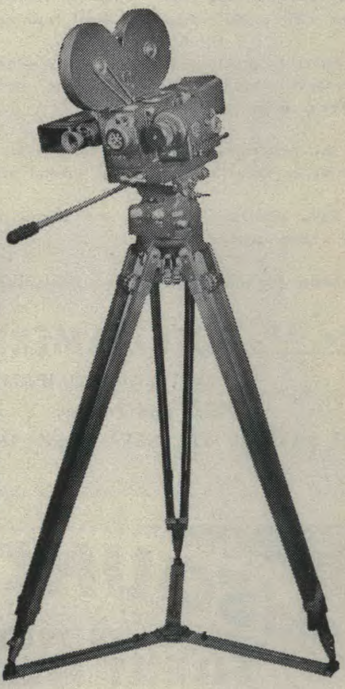
Closing date for the competition—March 1, 1950—affords entrants the opportunity to submit films without endangering their chances in other film competitions, most of which terminate before December 1st. Films which are submitted in these contests, or which have previously won awards will *not* be barred in American Cinematographer's competition. Because so many fine films have been made during the past two years, many of which have received only scant recognition in local competition, the American

"PROFESSIONAL JUNIOR"
SMALL GYRO TRIPOD

It is no longer necessary to use a large, heavy tripod for your 16mm. professional and semi-professional cameras

This new, small size GYRO tripod handles all 16mm. professional type cameras: Mitchell 16mm.; Auricon single system; Maurer 16mm.; motor-driven Cine Special; also 35mm. motor-driven Eyemo with 400′ magazine. It features *Super Smooth Pan & Tilt Action.*





Positive pan-locking knob. Tilt locking lever. Quick wrist action locking knob for leg height adjustments. Pan handle can be inserted at 3 different positions on tripod head for operator's convenience or extreme tilt work. Legs are hard maple specially treated and warp resistant. Tripod head is Dow Metal magnesium and alunminum. Built-in spirit level. Swivel tie-down rings. Platform can be equipped for either 3/8 or 1/4 in. camera screw.

Write for further details.

FRANK C. ZUCKER
CAMERA EQUIPMENT CO.
1600 BROADWAY NEW YORK CITY

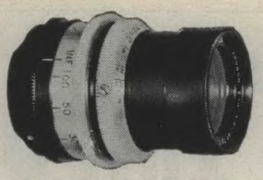
BACK ISSUES — AMERICAN CINEMATOGRAPHER

Complete your files! Save every issue for the informative technical articles they contain on all phases of cinematography. Back issues available for all months of 1948 and for first 9 months of 1949 (write for list of issues available for other years) 30c per copy; foreign, 40c per copy, postpaid.
AMERICAN CINEMATOGRAPHER, 1782 No. Orange, Hollywood 28, Calif.

ART REEVES' NEW ADDRESS:

**ART REEVES MOTION PICTURE EQUIPMENT
AND CAMERA SUPPLY COMPANY
7512 Santa Monica Blvd., Hollywood 46, Calif.**

Only Art Reeves Can Sell The New Model
SENSITESTER
Will Handle Modern Fine Grain Film



U. S. Pat. No. 2260368

GOERZ AMERICAN
APOGOR
F:2.3

the movie lens with microscopic definition successful cameramen have been waiting for—

- A new six element high quality lens for the 16 and 35mm. film camera. Corrected for all aberration at full opening, giving highest definition in black-&-white and color. Made by skilled technicians with many years of optical training.
- Fitted to precision focusing mount which moves the lens smoothly without rotating elements or shifting image.
- This lens comes in C mount for 16mm. cameras. Fitting to other cameras upon special order.
- Sizes available now: 35 and 50mm. uncoated and 75mm. coated.

Write for prices, giving your dealer's name.

The C.P. GOERZ AMERICAN
OPTICAL COMPANY
Office and Factory
317 EAST 34 ST., NEW YORK 16, N.Y.
AC-9

Add SOUND TO YOUR SILENT FILMS
(Music • Narration • Special Effects)

LET us convert your 16 mm picture to a sound film of the highest quality. Skilled technical staff, and finest sound recording equipment and studio facilities to serve industrial, amateur and educational film producers. Write TELEFILM, Inc., Dept. A-11, 6039 Hollywood Blvd., Hollywood 28, Calif. for prices and literature.

OUR SERVICE IS USED BY:
• U.S. Navy • Lockheed Aircraft Co. • Douglas Aircraft Co. • Food Mach'y Corp. • U.S. Dept. of Int. • Santa Fe Ry. • Standard Oil Co.

TELEFILM
HOLLYWOOD

HERE IS A BUY!!
Mitchell Standard 35mm. CAMERA
3 lenses, viewfinder, 2 magazines, 24 V motor, Fine condition, Fully guaranteed . . . Complete, ONLY $3495
S.O.S. CINEMA SUPPLY CORP.
Dept. F, 602 W. 52nd St. New York 19, N.Y.

Cinematographer's contest will accept as eligible, films which have been completed since January 1, 1948.

The Competition, which has been heartily endorsed by the nation's amateur movie clubs, will prove beneficial by acquainting them with many fine cine amateurs who at present are not associated with a club. At the same time, it opens up opportunity for these filmers to join clubs and thereby gain the advantages that association with a serious working group of fellow movie makers affords.

The important rules applying to the Competition appear elsewhere in this issue. Additional information, announcement of judges, and a fuller description of awards will appear in subsequent issues of the American Cinematographer. In the meantime, here are pertinent instructions for those interested in the competition.

IF YOU ARE A CINE CLUB MEMBER—contact your club secretary or any of its officers and arrange to have your club participate in the competition. On page 326 is a request for entry blanks. Have your club secretary mail this as early as possible, thus indicating the club's desire to participate.

IF YOU ARE NOT A MEMBER OF A CINE CLUB—Inquire of your photographic dealer for the name and address of your local amateur movie club, or write to The Editor, American Cinematographer, 1782 No. Orange Drive, for this information. Indicate to this club that you wish to submit a film for consideration as a non-member entry in the A.C. Competition. They will notify you when to submit it.

Although the closing date for receiving entries in the competition is March 1, 1950, no films should be sent to the judges until after January 1, 1950.

HOLLYWOOD BULLETIN BOARD

(Continued from Page 316)

which was an Academy Award winner for 1948. Paul Eagler also won an Academy Award for special effects in "Portrait of Jennie."

●

RICARDO MARCELINO, one of the Philippines' outstanding cinematographers, was recently admitted to non-resident membership in the American Society of Cinematographers. One of his recent productions, privately screened for several members of the A.S.C., was enthusiastically acclaimed for its rare, artistic photography.

●

"SAVAGE SPLENDOR," rare color documentary on Africa, which highlighted the A.S.C.'s motion picture program on August 22nd, drew plaudits for its startling camera work, sound recording and editing. The picture, shot entirely in Africa in 16mm. Kodachrome with hand held cine cameras is also notable for the fine blow-up of the 16mm. footage to 35mm. Technicolor. Photography was supervised by Joseph Braun.

●

JOSEPH RUTTENBERG, A.S.C., has been sent to England by M-G-M to set the cameras rolling on Greer Garson's forthcoming picture, "The Minniver Sequel," to be filmed in London; also to make a survey of camera and technical needs for "Quo Vadis?" "Kim," and "King Solomon's Mines," which M-G-M will also shoot overseas.

●

WALTER STRENGE, A.S.C., has established something of a record for number of assignments received and executed in a single month. Within a 30-day period, Strenge shot a series of five historical pictures at Republic; did "Life Of Riley" in 35mm. black and white for television release; photographed the Hank McCune television shown in 16mm. black and white, and started shooting a 16mm. Kodachrome production of the Hollywood Pilgrimage Play in the Pilgrimage Bowl in Hollywood. At conclusion of this assignment, he will go East to shoot a Roland Reed production for U. S. Steel in Technicolor Monopack.

●

CHARLES LANG, A.S.C., currently assigned to photographing "Where Men Are Men," Bob Hope-Lucille Ball starrer at Paramount, was laid low with a case of mumps early in June. Stuart Thompson, A.S.C., carried on during Lang's illness.

CURRENT ASSIGNMENTS

(Continued from Page 314)

with Red Skelton, Gloria DeHaven, and James Gleason. Jack Donohue, director.

- CHARLES SCHOENBAUM, "Outriders," (In Technicolor) with Joe McRea, Arlene Dahl, and Barry Sullivan. Roy Rowland, director.
- JOSEPH RUTTENBERG and GEORGE FOLSEY, "The Big Hangover," with Van Johnson, Elizabeth Taylor, Fay Holden and Selena Royale. Norman Krasna, director.

Monogram

- HARRY NEUMANN, "Lawless Code," with Jimmy Wakely, Cannonball Taylor, and Ellen Hall. Oliver Drake, director.

- Harrry Neumann, "Riders In The Dusk," with Whip Wilson, Andy Clyde, and Reno Browne. Lambert Hillyer, director.
- William Sickner, "Wolf Hunters," with Kirby Grant, Helen Parrish, Charles Lang and Chinook. Oscar Boetticher, director.

Paramount

- Charles Lang, "Where Men Are Men," (Technicolor) with Bob Hope, Lucille Ball, Jack Kirkland and Eric Blore. George Marshall, director.
- George Barnes, "Let's Dance," with Betty Hutton, Fred Astaire, Roland Young and Barton MacLane. Norman McLeod, director.
- John Seitz, "Postal Inspector," later changed to "United States Mail," with Alan Ladd, Phyllis Calvert. Lewis Allen, director.
- James Wong Howe, "Eagle And The Hawk," (Technicolor) with John Payne, Rhonda Fleming, and Dennis O'Keefe. Lewis R. Foster, director.
- Victor Milner, "September," (Hal Wallis Prodn, Shooting In Italy) with Joan Fontaine and Joseph Cotten. William Dieterle, director.

R.K.O.

- Nick Musuraca, "Bed of Roses," with Joan Fontaine, Robert Ryan and Zachary Scott. Nicholas Ray, director.
- Lee Garmes, "My Foolish Heart," (Samuel Goldwyn Prod.) with Dana Andrews, Susan Hayward, Kent Smith and Lois Wheeler. Mark Robson, director.
- Milton Krasner, "Christmas Gift," with Robert Mitchum, Janet Leigh, Wendell Corey and Johnny Wright. Don Hartman, director.
- Russel Harlan, "Tarzan And The Slave Girl," with Lex Barker, Vanessa Brown, Robert Alda. Lee Sholem, director.
- Ray Rennahan, "The White Tower," (Shooting In the French Alps), with Glenn Ford, Valli, Claude Rains, Sir Cecil Hardwicke, Oscar Homolka and Lloyd Bridges. Ted Tetzlaff, director.
- Edward Cronjager, "Daybreak," (Busch Prodn.) with Teresa Wright, Lew Ayers and Jacqueline White. John Sturges, director.
- Lee Garmes, "Beloved Over All," (Sam Goldwyn Prodn) with Ann Blyth, Farley Granger, Joan Evans, Donald Cook and Jane Wyatt. David Miller, director.
- Freddie Young, "Treasure Island," (Walt Disney Prodn.) (Shooting in England) with Bobby Driscoll, Robert Newton, Basil Sydney, and Denis O'Dea. Byron Haskin, director.

20th Century-Fox

- Jack Cardiff, "The Black Rose," (Technicolor) (Shooting in North Africa) with Tyrone Power, Cecile Aubry, Alfonso Bedoya, and Bobby Blake.
- Leo Tovar, "Front and Center," with Dan Dailey, Colleen Townsend, Corine Calvet and William Demarest. John Ford, director.

BAROMETER

A. S. C. Member Assignments

◆

This Month	59
Last Month	54
Year Ago	44

SALES • SERVICE • RENTALS
— 35 mm. • 16 mm. —
CAMERAS•MOVIOLAS•DOLLYS
Complete Line of Equipment for Production Available for Rental
Mitchell: Standard - Hi-Speed - NC - BNC - 16 mm.
Bell & Howell: Standard - Shiftover - Eyemos
Maurer: 16 mm. Cameras
Moviola: Editing Machines - Synchronizers
SPECIALISTS IN ALL TYPES OF CAMERA REPAIR WORK. LENSES MOUNTED
FRANK C. ZUCKER
CAMERA EQUIPMENT CO.
1600 BROADWAY NEW YORK CITY

NO GENERATOR NECESSARY
. . . when you use the new compact, carryable COLORTRAN light kits. Ideal for television and 16mm. film production. Major studios now use them, too!
Call For Demonstration or Write For Details
ColorTran Converter Company
7333 Santa Monica Blvd., Hollywood 46, Calif. Phone: GRanite 4461

- Charles G. Clarke, "Two Corridors East," (Formerly titled "The Quartered City" (shooting in Berlin) with Montgomery Clift, Paul Douglas and Cornelia Bruch.
- Ernest Palmer, "War Paint," retitled "Broken Arrow," (Technicolor) with James Stewart, Debra Paget, Joyce McKenzie. Delmar Daves, director.
- Harry Jackson, "A Ticket To Tomahawk," (Technicolor) with Dan Dailey, Anne Baxter, Rory Calhoun, and Walter Brennan. Richard Sale, director.
- Fred Jackman, Jr., "The Cariboo Trail," (Nat Holt Prod.—Color—Shooting in Canada.) With Randolph Scott, Bill Williams, Victor Jory, "Gabby" Hayes, and Karin Booth. Edwin L. Marin, director.

United Artists

- Hal Mohr, "Johnny Holiday," (Alcorn Prodn.) with William Bendix, Allen Martin Stanley Clements, and Jack Hagen. Willis Goldbeck, director.
- Ernest Laslo, "Dead On Arrival," (Cardinal Prod.) with Edmond O'Brien. Rudolph Maté, director.
- Stanley Cortez, "The Whip," (Hal E. Chester Prodn.) with Dan Duryea, Gale Storm and Herbert Marshall. Cyril Endfield, director.
- Paul Ivano, "Champagne For Caesar," (Harry Popkin Prod.) with Ronald Colman, Celeste Holm, Barbara Britton, Vincent Price and Art Linkletter. Richard Whorff, director.

Universal

- Maury Gertsman, "Java," retitled "East of Java," with Shelly Winters, Macdonald Carey, Dorothy Hart and Luther Adler. H. Bruce Humberstone, director.
- Russell Metty, "Buccaneer's Girl," with Yvonne DeCarlo, Robert Douglas, Andrea King, Norman Lloyd and Peggie Castle. Frederick de Cordova, director.
- Irving Glassberg, "The Story of Molly," with June Havoc, Scott Brady, Dorothy Hart, Charles Drake. Crane Wilbur, director.
- William Daniels, "Fugitive From Terror," with Ida Lupino, Stephen McNally, Howard Duff, and Peggy Dow. Michael Gordon, director.
- Maury Gertsman, "The Bowie Knife," (Technicolor) with Maureen O'Hara, Macdonald Carey, Charles Drake, George Sherman, director.
- Irving Glassberg, "Frame-Up," with Scott Brady, John Russell, Peggy Dow and Dorothy Hart. William Castle, director.

Warner Brothers

- Robert Burks, "Beyond The Forest," with Bette Davis, Joseph Cotten, David Brian, and Ruth Roman. King Vidor, director.
- Peverell Marley, "Perfect Strangers," with Ginger Rogers, Dennis Morgan, Margalo Gilmore, Anthony Ross and Alan Reed. Bretaigne Windust, director.
- Ted McCord, "Young Man With A Horn," with Kirk Douglas, Lauren Becall, Doris Day, Hoagy Carmichael and Juano Hernandez. Michael Curtiz, director.
- Carl Guthrie, "The Cage," with Eleanor Parker, Agnes Moorhead, Jan Sterling, Gertrude Michael and Ellen Corby.
- Ernest Haller, "Always Leave Them Laughing," with Milton Berle, Ruth Roman, Virginia Mayo and Bert Lahr. Roy Del Ruth, director.
- Wilfred Cline, "The Daughter Of Rosie O'Grady," (Technicolor) with June Haver, Gordon MacRae, Gene Nelson and James Barton. David Butler, director.
- Sidney Hickox, "After Nightfall," with David Brian, Marjorie Reynolds, Claudia Barrett and John Archer. Peter Godfrey, director.

Classified Advertising

RATES: Ten cents per word — minimum ad $1.00. Ads set in all capital letters, 60c per agate line (12 agate lines per inch). No discounts on classified advertising. Send copy to editorial office, 1782 N. Orange Dr., Hollywood 28, California.

FOR SALE

35MM. INTERMITTENTS—now only $75.00 each —precision machining, excellent design. Perfect for Printers, Animation Cameras, Slide Film Cameras, and for silencing and modernizing motion picture cameras. Double pull-down claws and double registration pins, at aperture. Entire unit in light-tight metal case to accommodate 200-foot roll, complete with take-up. Light trap at aperture. Original cost $1,000.00.

AFP

1600 BROADWAY - - SUITE 1004

New York 19. N. Y.

WE BUY, SELL AND RENT PROFESSIONAL AND 16mm. EQUIPMENT, NEW AND USED. WE ARE DISTRIBUTORS FOR ALL LEADING MANUFACTURERS. RUBY CAMERA EXCHANGE, 729 Seventh Ave., New York City. Established since 1910.

WE Buy, Sell, Trade Cameras, Projectors, Laboratory and Cutting Room Equipment, 8-16-35-mm. We pay highest prices. Carry one of the most diversified stocks in America. Mogull's Camera & Film Exchange, 112-114 W. 48th St., New York 19, N. Y.

BASS SAYS:

Mail me your items or send a letter
A trade with BASS is always better.
CHARLES BASS
President.

16mm. latest model Auricon double system sound recorder Model RT-80, variable area sound track, 200 ft. film capacity, A & B wind, NR-22 noise reduction amplifier, built-in synchronous motor $575.00

35mm. Akeley, 2" B. & L. Tessar F:3.5, 5" B. & L. Tessar F:4.5 telephoto, view finder lenses to match, case, 4 magazines, 400 ft. ea. case, Akeley Gyro tripod $375.00

35mm. Universal, dissolve, B. & L. Tessar F:3.5 .... $125.00

35mm. Eyemo Compact 3 lens Turret, 71L, 1" Cooke F:2.5, 4" Cooke deep field Speed Panchro F:2.5 coated, 6" Cooke, F:4.5, case $875.00

WRITE BASS FIRST

BASS CAMERA COMPANY, 179 W. MADISON ST.
CHICAGO 2, ILL.

HEADQUARTERS FOR Stereo Realist Camera and Accessories. Spot cash for your used photo equipment. CAMERA MART, INC., 1614 N. Cahuenga, Hollywood 28, HEmpstead 7373.

CINE SPECIAL, excellent, 1" fl.9 & reflex focuser	$450.00
CINE SPECIAL, excellent, 1" fl.9 & optical finder	515.00
EXTRA 100 foot film chambers, like new	195.00
EXTRA 200 foot film chambers, like new	295.00
15mm. f2.7 EK lens $47.50, 50mm. fl.6 EK lens	78.50
63mm. f2.7 EK lens	76.50
102mm. f2.7 EK lens	84.75
ARRIFLEX 35mm., 3 lenses, 2-200 ft. mags. exc.	675.00
EXTRA 200 ft. Arriflex magazines, metal.	69.50
SET OF LENSES for Arriflex, 35mm. f2, 50mm. fl.5, 85mm. f2, all Zeiss and coated, excellent	275.00
ORIGINAL ARRIFLEX tripod, like new	175.00
BALTAR lens, 152mm. f2.7 ctd, Mitchell mt.	148.00
35mm. CONTAFLEX, Zeiss fl.5 lens, case, exc.	237.50

TRADES ACCEPTED—CASH WAITING
FOR USED EQUIPMENT
FLORMAN & BABB
1254 Sherman Ave., New York 56, N.Y. Je. 7-0892

FOR SALE

MITCHELL STANDARD CAMERA. Like New. Brand New Mitchell Wild Motor, Tachometer. Six like new Pantachar Lenses Mitchell Mounts 100MM. 75MM.-50MM.-40MM.-35MM. All F.2-3. 25MM. F.1-8 400 Ft. magazine. View finder — Extras. Over $5000.00 value. First $3600.00 takes.

MOVIOLA New Condition, Silent—$140.00.

DEBRIE PARVO CAMERA. Silenced. Perfect condition. Series F.2 #6328 3P.H. Sync Motor, tripod, baby tripod, 6-1000 Ft. magazines, carrying cases, finders, matte boxes, 10 asst. lens mts. (no glass. Many extras. A buy at $1600.00.

PRECISION TITLE STAND. Bell & Howell Camera #400. Every possible movement, all precision built. New D.C. Generator. Loads of extras. Worth $10,000.00, sell for $4500.00.

LOUIS MEYER STUDIOS

9200 EXPOSITION BLVD., LOS ANGELES 34, CALIF.
Phone TEXAS 0-4696

CINEPHON "400" 35mm. camera; four Meyer Gorlitz lens - 100mm. - 75mm. - 50mm. - 30mm. Never had magazines or motor. Never used. Like New. Best Offer. A. M. PERRITTE, 1335 Dennison Ave., Pittsburgh 17, Pa.

AURICON single system sound camera with noise reduction amplifier (both recently factory overhauled), new high fidelity E-6 microphone, portable power supply, extra battery, tripod, tubular Y-shaped dolly, all excellent. $695. Commander Brinckloe, Mare Island, California.

CINE SPECIAL prewar, 2 lenses. Like new. $450.00. ROSE STUDIO, Petersburg, Va.

CINE SPECIAL #1: Fl.9 lens, perfect; inspection privilege, $450. DAVIS, 5329 Holmes, Kansas City, Missouri.

EYEMO, A-4, f2.8 Eymax, 8-16-24 FPS, excellent condition, $155.00. CALAMAR, 212 W. Mission, Santa Barbara, Calif.

1000 LENSES — all bargains. Ask for our list. HARRY MAZUR, 1114 No. Western Ave., Los Angeles, HUdson 2-2406.

35MM. MODEL U-D-S SOUND MOVIOLA. In good optical and mechanical condition. Price $797.00.

M.G.M. CAMERA ROLAMBULATOR DOLLY, Precision, Ball Bearing, Pan Tilt Controls, Weight 700 lbs. Cost $6,000.00. Bargain $1,500.00.

H-C-E 16MM. SPECIAL EFFECTS OPTICAL PRINTER. Features: Bell & Howell Projector, Model A Eastman Camera, 42" Lathe Bed. 500-Ohm Dimmer, Foot Switch, Motor, Microscope. Cost $5,000.00. A Gift at $1,500.00.

35MM. BELL & HOWELL SINGLE SYSTEM SOUND CAMERA. Four Quality Speed Lenses, Two 1000-ft. Magazines, Freehead, Tripod, Ready-to-operate. Price $3,750.00.

LIKE-NEW 16MM. AURICON SOUND CAMERA, SINGLE AND DOUBLE SYSTEM RECORDINGS. Outfit complete, new Guarantee. Price $2,313.60.

ANIMATION STAND, SUITABLE FOR EITHER 35MM. OR 16MM. Heavy Steel Construction, Precision Machine, Weight 1500 pounds. Price $2,350.00.

35MM. EYEMOS, ARRIFLEX AND OTHER TYPES OF CAMERAS, MOTION PICTURES LENSES, MOUNTED AND UNMOUNTED, AT REDUCED PRICES.

HOLLYWOOD CAMERA EXCHANGE

1600 Cahuenga Blvd. Hollywood

COMPLETE ARRIFLEX 35mm., four lenses, five magazines, tripod, battery, case. Box 1061, AMERICAN CINEMATOGRAPHER.

LABORATORY & SOUND

SOUND RECORDING at a reasonable cost. High fidelity 16 or 35. Quality guaranteed. Complete studio and laboratory services. Color printing and lacquer coating. ESCAR MOTION PICTURE SERVICE, INC., 7315 Carnegie Avenue, Cleveland 3, Ohio. Phone: Endicott 2707.

PHOTOGRAPHERS

SERVICE TO PRODUCERS

Mitchell 16mm. Professional camera equipped with 1200 foot film magazines for continuous filming, available for rent with operator to 16mm. producers. Write for rates.

Walter Porep
Sportsreel Productions
1114 Carleton St.
Berkeley, California

STUDIO & PRODN. EQUIP.

SYNCHRONOUS Tape Recorder with three channel amplifier, new, $740.00; B. Maurer Recorder with new galvanometer, less amplification, $1495.00; Simplex Acme 35mm. Sound Projection outfit, $595.00; Automatic 16mm. Lab Processor, $1295.00; Maurer Professional Camera, 4 lenses, tripod, magazine, syncmotor, blimp, almost new, $3495.00; MR 1000W Solarspots, $64.50; Sound and Picture 16mm. Ediola, $295.00; New 16mm. Sound Printers, $685.00; Composite Sound Moviola, $495.00; Eyemo Q turret camera, $695.00; Neumade 16/35mm. Automatic Film Cleaner, $194.50; Giant Spotlite Tripods 8′ high, $9.95. Ask for illustrated Film Production Equipment Catalog. Dept. f - S. O. S. CINEMA SUPPLY CORPORATION, 602 W. 52nd Street, New York 19.

CAMERA & SOUND MEN

SERVICE TO PRODUCERS

Camera and sound men, artistically and scientifically skilled, well-equipped **MODERN SOUND STUDIO, 30′ x 40′ x 16′ high.** Ideally suited for Television work. High-fidelity play-back. Stage set construction. Ask for ROLAB rates.

ROLAB STUDIOS
Sandy Hook, Connecticut
90 minutes from New York City
Telephone: Newtown 581

EQUIP. WANTED

WANTED TO BUY FOR CASH

CAMERAS AND ACCESSORIES
MITCHELL, B & H, EYEMO, DEBRIE, AKELEY
ALSO LABORATORY AND CUTTING ROOM EQUIPMENT

CAMERA EQUIPMENT COMPANY
1600 BROADWAY, NEW YORK CITY 19
CABLE: CINEQUIP

"WANTED"

Mitchell - Akeley - B & H
Wall - Eyemo
Cameras - Lenses - Equipment

NATIONAL CINE EQUIPMENT, INC.
20 West 22nd Street
New York 10, New York

MISCELLANEOUS

A.S.C. "CINEMATOGRAPHIC ANNUAL," published 1930. Limited number copies available at $3.50. A collectors' item. A.S.C. Agency, 1782 N. Orange Dr., Hollywood 28, Calif.

WE PAY CASH FOR EVERYTHING PHOTOGRAPHIC. Write us today. Hollywood Camera Exchange, 1600 Cahuenga Blvd., Hollywood.

MR or Bardwell 5KW or 2KW spots for export. Also Akeley Gyro Tripods. S.O.S. CINEMA SUPPLY CORPORATION, 602 W. 52nd Street, New York 19.

She keeps the romance running smoothly...

THE spell of this picture's song and story might suddenly be broken . . . but for film row's "first lady," the exchange inspectress.

With unrelenting vigilance, she has inspected every inch of film before each booking...checked it for worn perforations, torn splices, and other signs of wear and tear that might hinder smooth projection and mar the enchantment of the show. By this painstaking care of film and unceasing effort to keep each reel running smoothly, the inspectress has earned a place of importance behind the scenes of motion picture distribution.

And her work is all the more easily done for the quality and reliability she finds in the release prints made on Eastman film.

EASTMAN KODAK COMPANY
ROCHESTER 4, N. Y.

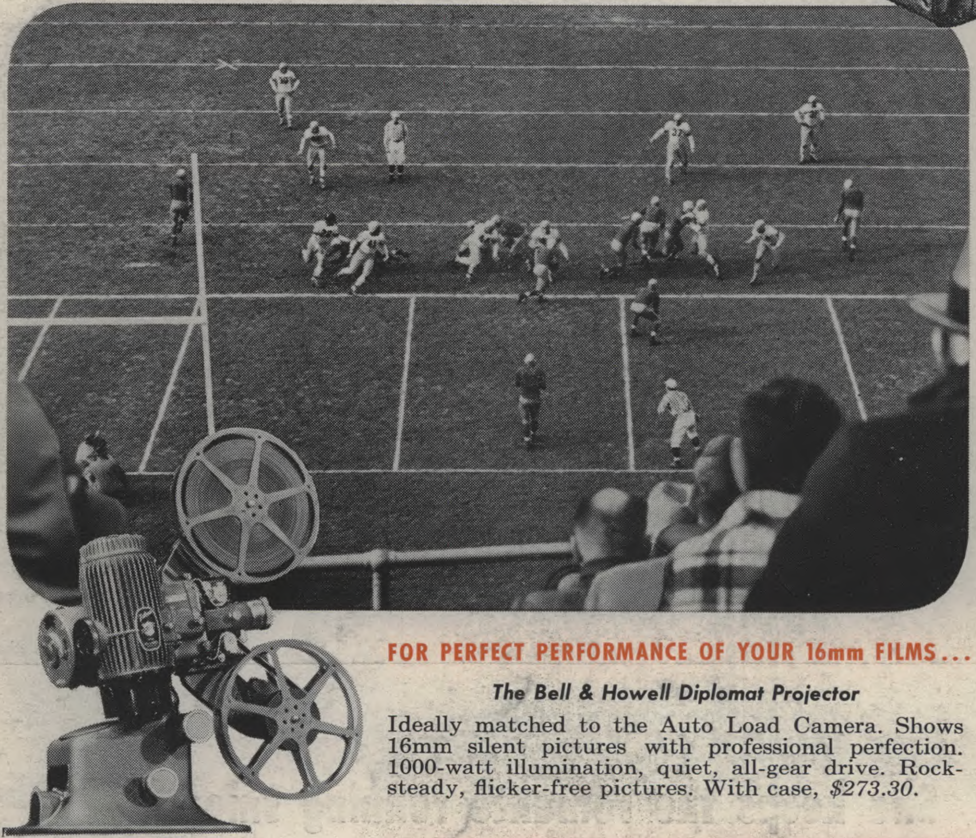
J. E. BRULATOUR, INC., DISTRIBUTORS
FORT LEE • CHICAGO • HOLLYWOOD

AT A NEW LOW PRICE!

THE FAMOUS

Bell & Howell AUTO LOAD

$162.50



FOR PERFECT PERFORMANCE OF YOUR 16mm FILMS . . .

The Bell & Howell Diplomat Projector

Ideally matched to the Auto Load Camera. Shows 16mm silent pictures with professional perfection. 1000-watt illumination, quiet, all-gear drive. Rock-steady, flicker-free pictures. With case, *$273.30.*

NOW, MORE THAN EVER, YOUR GREATEST 16mm VALUE!

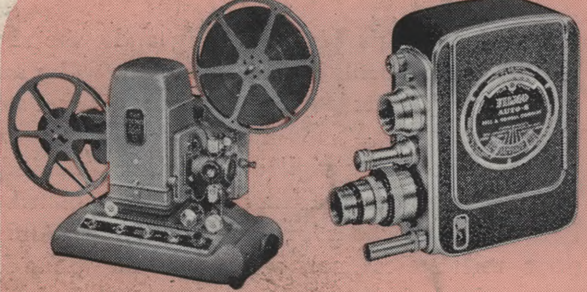
● For prize-winning home movies . . . for a *living* record of your family—you can't beat the Bell & Howell Auto Load! Its new low price makes it the truly precision-made 16mm camera *every movie maker* can afford!

Magazine loading provides quick, easy film change. Speeds of 16, 24, 32, 48 and 64 frames per second, plus Singlepic release. Built-in exposure guide covers over *4000* outdoor light conditions! Thanks to the Auto Load's superb Filmocoted f/2.5 lens and fully-enclosed, positive-type viewfinder, *what you see, you get.*

And the price again? It's only $162.50!

Bell & Howell Matched 8mm Cameras and Projectors

GUARANTEED FOR LIFE. During life of product, any defect in workmanship or material will be remedied free (except transportation). The Bell & Howell Company, 7148 McCormick Road, Chicago 45.

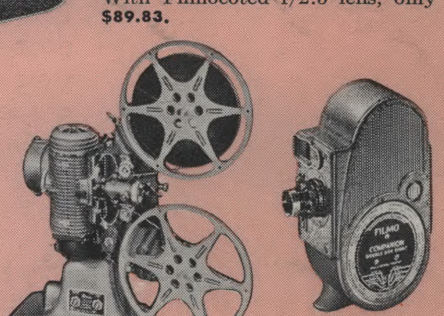


B&H Picture Master Projector. *(above left)* Matched with the Auto-8 Camera. Handles film gently, surely, safely. Base-up 750-watt lamp, reverse, power rewind, gear-driven take-up. With case, **$262.**

B&H Auto-8 Camera. *(above right)* The finest 8mm camera made for personal use. Features magazine loading, Swifturn two-lens turret, five speeds including slow motion. With Filmocoted f/2.5 lens only, **$174.42.**

B&H Regent Projector. *(below left)* Better screen illumination than any other popular make of 8mm projector. Takes 400 feet of film for 33-minute show. **$149.50.** Case, $10.

B&H Companion Camera. *(below right)* Lightest of all the 8's, and easiest to load. Easy, drop-in spool loading, no sprockets to thread. With Filmocoted f/2.5 lens, only **$89.83.**



Bell & Howell

Since 1907 the
Largest Manufacturer
of Professional Motion Picture
Equipment for Hollywood and the World